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USSR Report

ENERGY

No. 85

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CONTENTS

ENERGY CONSERVATION

Ukrainian People's Control Committee Reports Energy, Material Savings
(V. Kutsevol; IZVESTIYA, 27 Oct 81) 1

Plant Lags Badly in Making Bottles for Gas-Burning Vehicles
(V. Gorodetskiy; TRUD, 14 Oct 81) 4

Kazakh SSR Power System Bosses Punished for Overmanning
(KAZAKHSTANSKAYA PRAVDA, 25 Sep 81) 7

Mangyshlak People's Controllers Unearth Waste
(A. Atchibayev; KAZAKHSTANSKAYA PRAVDA, 25 Sep 81) 10

FUELS

Recent, Future Performance of Azerbaijan Oil, Gas Industries Mulled
(K. Vartapetov; VYSHKA, 28 Oct 81) 13

Feats, Faults of Karaganda Coal-Mine Designers Reviewed
(Yu. Razgulyayev; PRAVDA, 23 Oct 81) 17

KATEK Coal Development
(Ye. Fedorovskiy; SOVETSKAYA LATVIYA, 17 Jul 81) 21

'KATEK' Buildup Status Analyzed by Local Party Official
(P. Fedirko; TRUD, 10 Oct 81) 25

Ekibastuz Urges Production of Long-Delayed Improved Excavator
(N. Belik, A. Gridnev; PRAVDA, 27 Oct 81) 30

Miners Complain of Coal Dust
(Yu. Rybalov, et al.; TRUD, 17 Jul 81) 34

Miners Complain of Lack of Proper Machinery
(P. Patrushev; PRAVDA, 2 Jul 81) 37

Novopskov-Voroshilovgrad Gas Pipeline Accepted for Operation
(A. Avdeyev; SOTSIALISTICHESKAYA INDUSTRIYA, 1 Nov 81) 40

Capacity of Mubarex, Shurtan Gas Complexes Being Expanded
(A. Atadzhanov; PRAVDA VOSTOKA, 16 Oct 81) 42

Levee To Protect Kalamkas Oilfield From Caspian Sea Finished
(K. Borison; TRUD, 18 Oct 81) 45

Methods for Building Pipelines Under Water Described
(V. Yeremin; VYSHKA, 16 Oct 81) 47

Difficult Mangyshlak Oilfield Working Conditions Described
(Yu. Kozlovskiy; SOTSIALISTICHESKAYA INDUSTRIYA, 7 Oct 81) ... 49

Suggestions Program Neglected in Ukraine's Coal Mines
(I. Naumenko; RABOCHAYA GAZETA, 30 Sep 81) 52

Briquetting, Neglected for Years, Must Be Reinstituted
(A. Batygin, B. Ravich; PRAVDA, 7 Oct 81) 58

Official Describes Estonia's Readiness for Heating Season
(Aarne Aleksandrovich Saar Interview; SOVETSKAYA ESTONIA,
24 Sep 81) 61

Briefs

Altay Coke Battery 64
Coal Mine's Life Extended 64
Ekibastuz Coal-Mining Competition 64
Experimental Coal Cutter-Loader 65
Coal Mine Goes Deeper 65
CEMA Coal-Mining Meeting 65
Western Donbass Coal Mine 66
Petroleum Supply Agency Formed 66
Coal Quality Praised 66
New Drifting Method 66
Giant Excavators Produced 66
New Photosynthesis Apparatus 67
Water-Steam Enhanced Recovery 67
New South Komi Oilfields 68
Muslyumov Pipeline Pump Station 68
Catalytic Hydrogenation of Coal 68
Gas-Services Conference 68
Vyborg Offshore-Platform Construction 69

ENERGY CONSERVATION

UKRAINIAN PEOPLE'S CONTROL COMMITTEE REPORTS ENERGY, MATERIAL SAVINGS

Moscow IZVESTIYA in Russian 27 Oct 81 p 3

[Article by V. Kutsevol, chairman of the Ukrainian SSR People's Control Committee: "For a Strict Accounting"; passages enclosed in slantlines printed in boldface]

> [Text] From the work experience of people's controllers of the Ukraine in saving electricity, fuels and lubricants.

The Ukraine's economy occupies a substantial share in the nation's common economic complex. It has been estimated that a 1-kopeck reduction in the republic's material expenditure for each ruble's worth of output would be equivalent to increasing national income by about 2 billion rubles. This obligates party, soviet and economic organs and people's control committees and groups to wage a persistent struggle for the effective use of each ton of metal and fuel, of each kilowatt-hour of electricity and of everything that is produced by the Soviet people's labor.

For several years now a public inspection of effectiveness of the use of reserves for saving material, fuel and power resources, which the Central Committee of the Ukrainian Communist Party has approved, has been conducted. About 10 million workers are participating in the inspection. More than 1 million suggestions come from them each year. /During the 10th Five-Year Plan more than 1.5 million tons of ferrous metals, 12.5 billion kilowatt-hours of electricity, 34.1 million gigacalories of thermal energy, 5.8 million tons of standard fuel equivalent, and a large amount of other resources were saved in the republic. During the first half of 1981 almost 119,000 tons of ferrous metals, more than 1 billion kilowatt-hours of electricity and 3 million gigacalories of thermal energy were saved./

And the people's controllers made no small contribution to this. Large-scale checks on the use of usable production waste were made with the participation of regional Gossnab administrations. More rational use of waste has helped to produce tens of millions of rubles' worth of additional output, including consumer goods. The inspection has been going on with great efficacy at enterprises and organizations of the Dnepropetrovskaya, Donetskaya, Voroshilovgradskaya, Zaporozhskaya, L'vovskaya and Khar'kovskaya Oblasts and of Kiev.

In searching for reserves for savings and thriftiness, the committees and groups are not restricted to participation in the inspection. They also use other forms and methods of operation. The people's controllers of some oblasts, cities and rayons, enterprises and organizations have become initiators of useful initiatives.

Dnepropetrovsk teams, for example, undertook to monitor the execution of measures that insure that enterprises fulfill commitments to produce high-quality goods above the plan through savings of all types of resources. This helped the city's enterprises to produce during the first 9 months of this year 26 million rubles' worth of products above the plan. Khar'kovskaya Oblast committees and groups, after increasing their monitoring activity over the rational use of ferrous and nonferrous metals, helped collectives to save more than 5,000 tons of metal.

As is known, the problem of more economical consumption of fuel and power resources is acquiring special severity and urgency today. Republic, oblast, city and rayon committees are regularly checking on the fulfillment of measures designed to save energy resources, to find additional reserves for reducing specific fuel consumption in the generation of electricity, heat and steam, and to reduce the consumption of electricity for in-house needs and losses thereof in Minenergo [Ministry of Power and Electrification] system grids and transformers. /This helped the republic's power-engineering workers to reduce specific fuel consumption by 9 grams per kilowatt-hour of electricity and, thereby, the consumption in standard fuel equivalent was reduced by 5.1 million tons./

At the suggestion of a Minelektrotekhprom [Ministry of Electrical Equipment Industry] committee, measures were taken to speed up series production at the Poltava plant of more economical mercury-vapor and sodium-vapor lights. /The use of these lights in 1980 alone saved more than 200 million kilowatt-hours of electricity./

Measures were taken, with the direct participation of people's controllers of the Donetsk Metallurgical Plant imeni Lenin, to make use of blast-furnace gas and the heat of spent steam. As a result, during the first 9 months of this year 307,000 tons of standard fuel equivalent were saved. At the suggestion of the chairman of the people's controller's group of the liquid mineral-fertilizer department of Dneprodzerzhinsk's Azot production association, Hero of Socialist Labor N. G. Morgun regularized illumination of a section, enabling about 400,000 kilowatt-hours of electricity to be saved per year.

But not everywhere is a businesslike approach being taken to the job. An analysis of the inspections indicates that various ministries and agencies have not established a proper procedure for developing resource-consumption norms or differentiated tasks for saving fuel and electricity, and, where they exist, they are not always observed and reviewed in good time. Cases where some ministries knowingly approve overstated specific norms and ceilings for enterprises still have not been eliminated.

People's control organs, in using the rights granted them, are holding to strict accountability officials who are guilty of wastefulness and extravagance, and are eliminating the deficiencies discovered by methods that are characteristic for them. Here is an example. The managers of the Radomyshl' Machinebuilding Plant of the All-Union Industrial Association Soyuzmeliormash [Association for the Manufacture of Land Reclamation Machinery] of Minstroydormash [Ministry of Construction, Road and Municipal Machine Building], instead of taking steps to intensify the savings and thriftiness regime, went down the path of the artificial exaggeration of consolidated norms versus specified and detailed norms that are used in production, enabling an excess of hundreds of tons of rolled metal to be obtained. The inspection papers were reviewed at a session of the republic's People's Control Committee. The guilty were severely punished. After the committee's intervention the enterprise's metal requirements were reduced by 380 tons. Substantial overconsumption of energy resources were found at the Korosten' Chemical Machinebuilding Plant of the All-Union Industrial Association Soyuzneftekhimmash [Association for Petrochemical Machinebuilding]. The committee presented strict demands on the enterprise's managers. And, as a result, by improving equipment operation and by monitoring the consumption of fuel and electricity more strictly, consumption norms were reduced appreciably here, and goals set for savings were overfulfilled.

Substantial reserves are concealed in the speeded-up concentration of city heat supply. Right now, only half of the thermal energy generated in the republic for this purpose comes from large boilerhouses. Yet an additional 3 million tons of standard fuel equivalent per year can be saved by concentrating the generation of heat energy. This is equivalent to introducing three large coal mines into operation.

The matter of a shortage of fuel and lubricants is severe, but these are being expended extremely uneconomically. Empty truck runs are still great, and many trucks operate with unregulated fuel apparatus and inoperative speedometers. Petroleum product is being expended especially wastefully at kolkhozes and sovkhozes. Standard storage facilities for fuels and lubricants and gasoline filling stations are being buit slowly there. Diesel fuel and automotive gasoline are being used in large amounts to heat production and domestic-amenity premises.

A check made by the committee and the republic's prosecutor and MVD, which the Ukrainian Communist Party Central Committee commissioned, found violations of the established procedure for the reception, distribution and consumption of fuel at many bulk plants and filling stations. A considerable lag has been permitted in the development of filling stations, especially in rural areas. All this, along with inflated reports permitted during freight hauling by truck and unsatisfactory monitoring over the expenditure of single coupons, will enable large amounts of fuel surpluses that are unaccounted for to be created and fuel to be misappropriated and resold, either directly or through filling stations, to the owners of personal cars. In accordance with the results of the check, the republic's government planned a number of measures for imposing the proper procedure in these matters. The implementation by ministries, agencies and petroleum marketing organizations of these measures for the economical expenditure of petroleum product, improvement in accounting, and intensification of monitoring of the operation of bulk plants and filling stations has enabled more than 300,000 tons of fuel to be saved during the first half of this year, or 18 percent more than during the corresponding period of last year.

Committees and groups were required to act more energetically and aggressively concerning observance of the savings regime. Our guidance here was the instruction of Comrade L. I. Brezhnev at the 26th Party Congress that the economy should be economical, that not one violation, not one case of abuse, extravagance or lack of discipline should escape the proprietary glance of the people's controllers.

Checkers should search more actively for buried reserves of savings. This refers to the introduction of progressive resources-consumption norms, integrated raw-materials processing and technologies that are economical and produce little or no waste, and the involvement of local raw materials, byproduct materials and power-engineering resources in the economy's turnover.

11409
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ENERGY CONSERVATION

PLANT LAGS BADLY IN MAKING BOTTLES FOR GAS-BURNING VEHICLES

Moscow TRUD in Russian 14 Oct 81 p 2

[Article by V. Gorodetskiy (Ryazan'-Moscow): "Gas Instead of Gasoline--Responsibility for Introduction"]

> [Text] Why are products other than gas-bottle installations being produced at the Ryazan' Automotive Equipment Plant?

It is difficult to breathe on the capital's Sadovoy Ring Road during the peak hour. It is no better on the Kreshchatika in Kiev, the Nevskiy in Leningrad or Sumskiy in Khar'kov? Innumerable vehicles fill the streets of modern cities and poison the air with exhaust gases. How to deal with them? This problem has been facing the specialists for a long time.

Several years ago NAMI [Central Scientific-Research Motor-Vehicle and Automotive-Motor Institute] scientists created a very economical installation of low toxicity which should have rid cities of exhaust gases. The whole secret is that this installation worked not on gasoline but on gas. As is known, gas contains fewer of the substances from which harmful exhausts are formed than gasoline does. The engine is the same, and the gas-bottle adapter for it is not big and is easy enough to produce.

Specialists have estimated that use of the innovation will enable the toxicity of discharges to be reduced 4-fold to 10-fold on the average. In so doing, engine service life is increased 1½-fold. The economic benefit comes to thousands of rubles per motor vehicle.

In order to produce gas-bottle installations, an automotive equipment plant was built at Ryazan' that was designed for the production of 35,000 sets of the new equipment per year. Back in 1975 it was planned to convert 35,000 vehicles in Moscow to liquefied gas, and then to reequip automotive transport in Leningrad, Kiev, Riga and other cities, as well as all the country's health resorts.

But actually the Ryazan' plant has produced little more than 30,000 sets since 1975--one-seventh of what had been proposed. For example, 10,000 vehicles are operating on liquefied gas in Moscow, two-sevenths of what had been planned during the middle of the 1970's.

Perhaps the Ryazan' Automotive Equipment Plant had not been started up at full capacity? No. It actually was completely activated. Only they were not making what had been mentioned in the promising reports and communications of Minavtoprom [Ministry of Automotive Industry] managers. The plant's planning section gave me this information: 31 percent of the output consists of motorcycle carburetors, 30 percent winches, and only 39 percent gas-bottle equipment.

It is surprising but it is a fact: the product for the sake of which the enterprise had been built has proved to be secondary. And, as the plan goals have made clear, they were not badly wanted either by the ministry or by Ryazan' machine-builders.

Much could be said, which could take a long time, about the causes. But the basic point is the fact that VPO [All-Union Industrial Association] Soyuzavtoagregat [Association for the Production of Automotive Assemblies] of Minavtoprom, which answers for mastery of the installation, after undertaking fairly energetic steps toward the introduction of gas-bottle vehicles, then lost interest in the innovation. The process of introduction proved to be more complicated than work with such a tried and tested fuel as gasoline. There everything is simple--you pour it in the tank and it runs. The use of gas requires the solution of a large number of problems.

Primarily the creation of special filling stations. There are five of them in Moscow. The dispersion and remoteness of these stations led organizations that owned gas-bottle vehicles to ponder: is it worthwhile to maintain a vehicle that stands for hours in a long line to fill up, and you must still chase all over the whole city for it? There are no ton-kilometers, and plenty of unpleasantness. Is it not simpler to convert to gasoline?

And there are other problems. First of all, gas for the vehicle should meet definite specifications: it should have a limited content of sulfur and other harmful impurities. For this purpose, special scrubbing installations must be erected. But there are none, because the scientists presumed at first that the gas could be of the most ordinary kind. Later, when it was found that scrubbing is required, the appropriate additions should have been introduced to capital-construction documentation. They did not do this: first, it would have had to go through planning and financing organs. This would be a great bother. And second, will there suddenly be no demand and the installation will stand idle? This example tells what an absence of scrubbing installations can lead to. In Tashkent, where 142 taxis are operating on liquefied gas, one batch of Orenburg gas that had not been cleaned first led to a complete stoppage of all the Volgas that had been equipped with gas-bottle equipment.

Even such an innocent-looking thing as an odor indicator caused no few difficulties in operation. It is known that the pure gas has no odor. In order to detect a leak, a special odorant is mixed in. And this, it turned out, does not burn, but it deposits an oily mass on the fuel equipment. And it even gets into the cab, and passengers refuse to sit in a taxi with such an "aroma."

In brief, there are sufficient obstacles in the path of the introduction of the valuable initiative. And what is most galling is that the fathers of the idea, NAMI scientists, are now maintaining complete neutrality. In recent years the institute's specialists somehow have cooled appreciably toward their work, which, incidentally, has more than once been favored with government decrees.

Two years ago the institute gave out all the technical documents, and with them also the right to decide the fate of the gas-bottle installations, to a number of enterprises. For the institute, there remain only designers' surveillance and general supervision.

How sad it is that right now there is no organization that is occupied with the entire problem of the use of gas in automotive engines. A good and needed idea has no sponsor. From this comes every sort of difficulty, which no one is solving and no one wants to. Before our very eyes, a major matter is disappearing, one which, if brought to refinement, will produce millions of rubles in savings.

It seems that the time has come when this valuable innovation must be monitored by the USSR State Committee for Science and Technology. This is the organization that should state its authoritative word to those ministries which, while possessing a potential for saving state resources, do not use it at all.

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ENERGY CONSERVATION

KAZAKH SSR POWER SYSTEM BOSSES PUNISHED FOR OVERMANNING

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian25 Sep 81 p 2

[Article: "Punishment for Extravagance"]

[Text] In the Kazakh SSR People's Control Committee.

A check has established that supervisors of the Main Administration for Electrification of Agriculture (Glavsel'energo) and the trusts Kazelektroset'stroy [Trust for the Construction of Electric-Power Grids in the Kazakh SSR] and Yuzhkazelektroset'stroy [Trust for the Construction of Electric-Power Grids in the South of the Kazakh SSR] of Kazakh SSR Minenergo [Ministry of Power and Electrification] and their subordinate organizations are performing unsatisfactorily the work that is aimed at improving the administrative apparatus and reducing the cost thereof. Administrative manning throughout the main administration as a whole during the past 3 years increased by 3.8 percent, while the number of workers was reduced. Violations of staff-budget estimating discipline were found in 14 organizations that were checked. In 1980-1981, 135,500 rubles were expended illegally, and 19 workers with an annual wage fund of 34,400 rubles were maintained above the staff manning level.

Many construction organizations do not take the required measures to improve the administrative structure and to reduce the staff and expenses on its upkeep. In violation of an order of USSR Minenergo, the Kazelektroset'stroy Trust created a production-equipment outfitting administration without a corresponding elimination of supply sections in subordinate organizations. The trust is not carrying out plans for construction and installing work, but the administrative staff continues to grow.

A check revealed cases of unlawful extra charges for the wages of those sent on trips for carrying out construction and installing work. Thus, in the Pokrovka SMU [Construction and Installing Administration] 50 percent extra charges in the amount of 61,000 rubles were unjustifiably paid to workers, and an overexpenditure of appropriation ceilings was permitted. Kazelektroset'stroy Trust unlawfully paid extra charges for combining trades and also as compensation for unused leave. According to the work results for 1980, 28,600 rubles in extra charges were paid out through production expenditures, 6,000 rubles for the administrative apparatus. For Kazeleketroset'stroy, such unlawful payments were, respectively, 27,900 and 7,000 rubles.

In a number of organizations, cases were discovered of the incorrect use of special automobiles. Thus, Yuzhkazekektroset'stroy Trust used above the ceiling three special cars that belonged to the Chimkent Mechanized Column that had been attached for the trust manager's deputies. Expenditures on their upkeep were 28,600 rubles.

In many construction organizations the discredited practice of sending representatives to enterprises with a view to speeding up the shipment of materials and equipment accelerated. These expenditures for the staff of the Yuzhkazeleketroset'stroy Trust alone were 4,400 rubles in 1980-1981.

Glavsel'energy chief T. Kh. Musagaliyev, knowing about many of the deficiencies and violations, did not take active measures to eliminate them. In 1½ years 192,000 rubles in all had been expended unlawfully.

The Kazakh SSR Ministry of Power and Electrification is monitoring poorly the fulfillment of the party and government decree about improving the administrative apparatus and cutting its cost and the execution of in-house decisions on these questions. Many checks and inspections that have been conducted by the ministry and the main administration do not discover existing deficiencies and omissions and do not exert an active influence on the reduction of nonproductive expenditures.

The committee announced a reprimand to Glavsel'energo chief T. Kh. Musagaliyev for serious deficiencies that were tolerated in the fulfillment of party and government decisions about reducing administration staff manpower and expenditures on its upkeep and for gross violations in the use of appropriations with ceilings and in staff-budget estimating discipline in subordinate organizations.

A severe reprimand was announced against Kazelektroset'stroy Trust manager U. A. Akylbayev for unjustified maintenance of the staff of a production-equipment outfitting administration for subordinate organizations and of six excess workers of the administration staff and for unlawful payment of monetary resources, and a pay stoppage in the amount of two months' salary was imposed on him in partial restitution of the material damage inflicted on the state.

A reprimand was announced against trust manager G. T. Kochubey for the unlawful use by Yuzhkazelektroset'stroy of three special cars of the Chimkent Mechanized Column for administrative staff needs, for sending representatives on a trip to ship materials, and for excessive expenditure of funds allowed for maintaining an administrative and management staff. As partial restitution for material damage, a monetary pay stoppage in the amount of two months' position pay was imposed on him.

For unjustified payment of a 50-percent extra charge for wages for 1980-1981, an overconsumption of appropriations with ceilings, and the maintenance of three excess staff workers, a severe reprimand was announced against chief of the Pokrovka Construction and Installing Administration M. O. Orazbayev. In partial restitution for material damage, a pay stoppage in the amount of two months' pay was imposed on him.

The committee called the attention of Deputy Kazakh SSR Minister of Power and Electrification A. O. Arystanov to the unsatisfactory fulfillment by Glavsel'energo and subordinate organizations of party and government decisions about improving the administrative structure and reducing manpower and expenditures for the upkeep of administrative staff, and to the existence of gross violations of staff-budget estimating discipline. A. O. Arystanov's claim that the ministry's board is examining the papers of the current inspection and that people who are to blame for excessive allocations of appropriations with ceilings and of violations of staff-budget estimating discipline will be brought to account is being taken into consideration. The ministry is taking steps to eliminate deficiencies and violations.

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ENERGY CONSERVATION

MANGYSHLAK PEOPLE'S CONTROLLERS UNEARTH WASTE

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 25 Sep 81 p 2

[Article by A. Atchibayev, chairman of the Mangyshlakskaya Oblast People's Control Committee (Shevchenko): "Take Care of the Watts and the Kilowatts Will Take Care of Themselves"]

[Text] Economy and thriftiness are organically inherent in the socialist system of management. Comrade L. I. Brezhnev said at the 26th CPSU Congress: "The goal of achieving savings and of making more complete and rational use of what the country has at its disposal requires a new approach to many questions of management." This principle was further developed in the party and government decree, "On Intensifying the Work to Save and Make Rational Use of Raw-Material, Fuel-and-Power and Other Material Resources."

In carrying out the CPSU Central Committee's instructions, people's control organs are keeping in mind implementation of the tasks set by the congress of making the economy economical, of suppressing cases of the irrational expenditure and direct loss of fuel, electrical and thermal energy, and material resources.

Mangyshlak's people's controllers pay special attention to analysis, the study of various sources of information about the use of energy, raw materials and other materials and of monetary resource, and, on that basis, correct determination of facilities to be monitored. Stress is placed upon the application and improvement of progressive technological processes, increase in the output of economical models, a reduction in the specific consumption of energy and of raw and other materials, a deeper and more integrated processing of materials and expansion of the use of secondary resources.

Committees, groups and posts are using various forms and methods for organizing monitoring work. Along with checks on specific, most urgent areas, large-scale checks and surprise inspections are widely practiced with a view to uncovering reserves. The results of these measures are, as a rule, discussed at committee sessions, at gatherings of collectives, and at production meetings.

Much work has been done to monitor execution of the CPSU Central Committee and USSR Council of Ministers decree, "On Certain Measures to Provide the National Economy with Fuel, Electricity and Thermal Energy and to Expend Fuel and Power Resources Economically." Last year more than 160 enterprises and organizations of the oblast's cities and rayons were covered by a check. Participating actively in them were outside workers of people's control committees, groups and posts, advanced production workers and specialists, trade-union workers, and "searchlight operators." Altogether, more than 2,500 people took part in the inspection.

The people's control groups of the Southern Trunk Petroleum-Product Pipeline Administration, Zakaspiisktransgaz [Trans-Caspian Natural-Gas Transport Association], the Mangyshlak Power Combine, the Kazakh Gas Refinery, and a number of automotive-transport, construction and installing organizations are making a considerable contribution to the saving of fuel and power resources. Thus, for example, checkers of Yuzhnefteprovod revealed that some departments and brigades of the collective had established reduced consumption norms for electricity and heat energy. As a result of current measures, the administration as a whole saved 9,048,000 kilowatt-hours of electricity, 21,108 gigacalories of heat energy and 9,329 tons of standard fuel equivalent during the year.

Thanks to the efforts of people's controllers, to their persistence, and to the search for new sources for saving resources, 84.4 million kilowatt-hours of electricity, 172.3 gigacalories of heat energy, and 22,700 tons of standard fuel equivalent were saved in the city of Shevchenko last year.

There are no trifles in the work to save fuel and power resources. Checkers noted both the electric-light bulb burning during the day and the idling generator. Take care of the kopecks and the rubles will take care of themselves; and take care of the watts and the kilowatts will take care of themselves.

Serious deficiencies also were discussed during the checks. In particular, at a plastics plant cases were found of irrational use of fuel and power resources, especially of natural gas and of the enriched ethane fraction of the gas. In three quarters of last year only 0.17 percent of the electricity was saved here instead of the 3 percent of the task, and, at the same time, an overconsumption of automotive and diesel fuel [as published] was observed.

At many enterprises, as the checkers reported, no norms for electric-power consumption had been established at all, and fuel and lubricants had been released above the established amounts. Measures were taken in accordance with all these alarms. Cases of overstated norms for the consumption of fuel and power resources were examined at committee meetings. The guilty were punished. The results of 130 checks were discussed at working meetings and within the people's control groups. Papers on 20 checks were sent to party and soviet organs.

The oblast's workers are persistently implementing the instruction of the 26th CPSU Congress about speeded-up assimilation of the new oilfields located on the Buzachi Peninsula. National controllers are also making their contribution to this important matter. Cases of violation of specifications and norms were discovered at the oilfields' built-up facilities. In particular, the construction period for a potable-water pipeline had been delayed, and certain other facilities are being erected with broken deadlines and poor quality. Severe reprimands for this were announced against A. Dunayev, chief of SU-3 [Construction Administration No 3] and V. Vikhlyayev, chief of SU-4. In partial restitution of the harm caused the state, pay stoppages in the amount of a month's salary were imposed on him.

The Shevchenko City Committee for People's Control examined at one of their sessions the question of the results of a check on fulfillment of the plan for the construction of Buzachi Peninsula oil-recovery facilities, which is being carried out by Mobile Mechanized Column No 2. Wastefulness in the expenditure of materials was established, and failures of plans for construction and installing work and of schedules for introducing facilities were noted. Chief of PMK-2 [Mobile Mechanized Column No 2] A. Kurlyandskiy was relieved of his post.

"The Main Directions for Developing the National Economy" calls for expansion of the use of new methods for stimulating oil formations and for an increase in the raw-materials withdrawal factor. These problems are very urgent for Mangyshlak's oil-recovery workers. It is natural that people's control organs, which have done much to improve utilization of the well inventory and to reduce repair work and idle time, rivet their attention on them.

Committees and groups are checking on the fulfillment of the party's directive to strengthen the country's fuel and power potential and are helping to introduce into operation the reserves that exist at Mangyshlak's oilfields. The surprise inspections that are being conducted at the oblast's oil and gas recovery enterprises have been effective. No few recommendations aimed at reducing idle time of wells and equipment, increasing withdrawal from the wells, and reducing norms for the consumption of fuel for in-house needs have been realized.

I cannot help but give the names of people who are voluntarily waging a struggle as a matter of principle to save fuel and power resources. Among them are the chairman of the advance power-supply enterprise group V. Osin. In one year alone the checkers of this group submitted more than 50 proposals and recommendations, and the people's controllers helped to save the enterprise 16.6 million kilowatt-hours of electricity and 13,400 tons of standard fuel equivalent.

K. Murzagaliyev, chairman of the people's control group of the Mangyshlak Drilling Administration S. Krymkulov, and chairman of the people's control group of the Sovkhoz imeni Kuybyshev B. Akhtanov are skillfully supervising the activity of the advance people's control group of the Uzen' Drilling Administration. Oil-recovery operator and member of the people's control group of the Uzen'neft' Administration N. Berezhnoy, outside inspector of the oblast's people's control committee O. Sarsengaliyev and other activists have many good things to their credit.

In increasing the efficacy of monitoring, we attach a great role to the training of our activist element. Nine standing working seminars and 141 schools for people's control are in constant operation under the oblast, city and rayon committees. More than 9,000 people are studying in them. Standard-procedures councils extend assistance to the checkers.

A most important prerequisite for dynamizing people's controllers is wide publicity and dissemination of positive experience. Placards that tell about the work experience of groups of the Southern Trunk Petroleum-Product Pipeline Administration and the integrated Mangyshlakneftegazrazvedka [Mangyshlak Integrated Oil and Gas Exploration Expedition] have met with great interest.

Under the guidance of party organizations, the oblast party control committee tries to raise the checkers' authority and to be concerned about their work effectiveness. We will thereby help the oblast's laboring collectives to improve indicators, eliminate waste and extravagance, and, in the final analysis, implement the party's economic and social policy, which is aimed at further strengthening the motherland and raising the welfare of the Soviet people.

11409
CSO: 1822/38

FUELS

RECENT, FUTURE PERFORMANCE OF AZERBAIJAN OIL, GAS INDUSTRIES MULLED

Baku VYSHKA in Russian 28 Oct 81 p 2

[Article by K. Vartapetov: "Build up Oil and Gas Recovery"]

[Text] We are at the close of the third 10-day period of the concluding quarter of the first year of the 11th Five-Year Plan. Azerbaijan's oilfield workers, like all the other working collectives in the republic, have summed up the results of third-quarter work and work for the first 9 months of the year, have identified the competition winners, and have set up new goals in the struggle to carry out the decisions of the 26th CPSU Congress and the 30th Azerbaijan Communist Party Congress.

In the All-Union Industrial Association Kaspmorneftegazprom [Caspian Offshore Oil and Gas Industry Association] the collective of the NGDU [Oil and Gas Recovery Administration] imeni N. Narimanov worked better than the others. It carried out the plan for the recovery of oil (and condensate) for the first 9 months by 102 percent, 42,850 tons of crude were taken from the ground above the plan, and, what is especially important, the task for turning crude over for processing was overfulfilled by more than 26,000 tons. In Azneft' [State Association of the Azerbaijan Oil Industry], the collective of the Ordzhonikidzeneft' NGDU, which overfulfilled by almost 2,000 tons the task for recovering crude and by 1,691 tons for the task for turning crude over, deserves a high assessment.

The competition under the motto, "From each well--maximum yield," which was promoted widely at the initiative of foreman Aliyulla Nasirov's brigade of the Shirvanneft' NGDU, helped greatly the success of these and other advanced oilfield workers' collectives.

And what is the situation as a whole with respect to recovering liquid fuel in the republic? The plan for the first 9 months was fulfilled 99.5 percent: the VPO [All-Union Industrial Association] Kaspmorneftegazprom fulfilled it by 99.95 percent (less 3,611 tons), Azneft' by 98.5 percent (less 53,717 tons). Because of an overconsumption of crude for in-house needs and other losses, there was a shortfall of 173,000 tons in the turnover of liquid fuel to the administration of the Transcaucasus arterial oil pipelines. In Kaspmorneftegazprom, four NGDU's were in arrears for turnover of output; only the NGDU imeni N. Narimanov did not fall short. And in Azneft', 7 of the 11 were in arrears. The shortfalls in delivering crude were especially great at the NGDU's imeni 50-Letiya SSSR and Muradkhanlyneft'--74,934 and 48,678 tons, respectively.

The work of the Kaspmorneftegazprom and Azneft' associations during the recent period indicate that their managers did not draw all the necessary conclusions from the criticism of them that was expressed at the 30th Azerbaijan Communist Party Congress. As before, the effectiveness of geological engineering measures and of methods for stimulating oil deposits was low, leading to a reduction in the withdrawal of oil at existing wells and to a premature shutdown of them. Thus, for example, at Siazanneft' 20 wells were introduced into operation from drilling and from the inactive list during the first 9 months, but just as many went out of operation. Matters were still worse at Azizbekovneft'. Since the start of the year 21 wells have been introduced there, and 40 have been "lost." As a result, the operating inventory not only has not grown but has been reduced by 11 units [as published].

The active well inventory situation would not be so worrisome were it not for a lag in the repair services of the oil and gas recovery administrations. True, they are coping with the plan's tasks, but they do not provide for fulfillment of the work volume required by the oilfields. This is explained by a shortage of repair brigades, inadequate manning of shifts and poor equipping. Not everywhere by far are NGDU supervisors duly concerned about improving the organization of repair work. As a result of this, in the VPO Kaspmorneftegazprom almost a third of all the brigades' production time is spent idly because of a so-called organizational or technical procedure.

Deficiencies in supplying materials and equipment and low quality of the equipment and tools supplied restrict the oilfield workers' operations. The quality of the hollow rods produced by the Plant imeni Sardarov and the wedge-shaped belts of the Mingechaur Industrial Rubber Products Plant provoke serious and completely justified censure by oilfield workers. The Plant imeni Dzerzhinskiy does not always meet the oilfields' needs for variety of deep-pump installations. The technical level of the repair of electric motors for pumping units that the Baku Electrical Repair Plant carries out leaves much to be desired.

Wide introduction of secondary, tertiary and other modern methods for increasing the withdrawal of crude from the formations is of great importance for the conditions involved in developing the old oil and gas fields of Azerbaijan, especially in the Apsheron Archipelago. Unfortunately, the amount of work done in this area remains insubstantial. In Azneft', in all, approximately 12,000 additional tons of liquid fuel, and in VPO Kaspmorneftegazprom 3,630 tons, have been obtained since the start of the year by introducing the moving heat-front method. These indicators are at about last year's level. The effectiveness of steam stimulation of oil deposits is exceptionally low.

Wide introduction of so-called foam systems for intensifying recovery holds much promise. In Ordzhonikidzeneft' the pumping of foam into the ground has enabled more than 25,000 additional tons of crude to be obtained since the start of the year. A solid addition! Unfortunately, this progressive method still has not received a "visa" at other oil and gas recovery administrations.

In summing up the work results of the oilfield workers for the first 9 months of the year, one cannot help but note their achievements in the drive to increase the republic's resources of gaseous-type fuel. Both Kaspmorneftegazprom and Azneft' associations overfulfilled the goals for gas recovery and they sent customers almost a billion cubic meters of it above the plan. Gas recovery rose 5.3 percent over 1980. Collectives of the NGDU imeni 50-Letiya SSSR, where gas recovery increased by almost 14 percent, and the NGDU imeni Serebrovskiy made the greatest contributions to achieving this success.

Our republic has at its disposal great potential possibilities for building up reserves of oil and gas and for increasing the recovery thereof. Furnishing offshore oilfield workers with new equipment, floating and submersible drill rigs and modern fixed foundations create great promise for conquering sea depths of 200 or more meters. And the ground that is covered by this depth of water conceals, the geologists forecast, no few reserves of liquid and gaseous fuel.

There are also good prospects for developing oil recovery on dry Azerbaijan land. USSR Minister of Petroleum Industry N. A. Mal'tsev and a group of responsible workers visited Azneft' oilfields and oil exploration sites in the summer of this year. An order adopted by the ministry contemplated a broad set of organizational and technical measures aimed at raising the association's operating effectiveness. During the fourth quarter additional drilling and operating equipment will be allocated the association from the ministry's reserve, and help will be extended in transport for various purposes. The execution of what has been planned and the wise use of resources will help the Azneft' collective to solve successfully the task set for it--to stabilize oil recovery and provide for its required growth during the 11th Five-Year Plan.

In order to reach these goals, it is necessary above all to speed up, at the areas being developed, especially in the Apsheron Archipelago, the conquest of lower horizons of productive rock strata, and to explore new oil and gas fields over a broad front in the central and western regions of Azerbaijan, where a number of favorable structures for oil and gas deposits have been observed. As is known, the explorers' persistent study of the earth's depths has been crowned with success this year--at the Zardob field an industrial inflow of oil was obtained from two holes. But it is impossible, obviously, to relax with this. Ahead is a large amount of complicated work at many exploration sites, primarily at such promising ones as Sazhdag, Zardob, Amirarkh, Gyurzundar and the northwestern part of Muradkhanly.

However, not by far are matters going as well as we would like at all exploration sites. The Azneft' plan for exploratory drilling for the first 9 months was carried out by just 86.1 percent, falling short by more than 11,000 meters of hole. The indicators were especially unsatisfactory at the Siazan', Apsheron, Neftechala and Dzharla UBR's [drilling administrations].

Let us say, for the sake of correctness, that there are many objective reasons that explain the lag, chief among them being a lack of drilling equipment. Meanwhile, the indicators would not be so bad had the available reserves been used more effectively.

Drilling speeds still are low, and the accident rate is high. Since the start of the year 20 accidents have occurred at Azneft' drilling enterprises, 12 of them during exploratory drilling. The quality of well penetration leaves much to be desired. At Muradkhanly, for instance, the high-flow well No 203 went out of operation a week after it had been mastered because of a defect in the casing. There are no few such cases where wells have been in complicated situations for a long time as a result of violations of the casing program. Serious errors were permitted in the technology of testing and assimilating productive horizons. The buildup of facilities for exploratory areas is slow and, the main thing, of poor quality.

The main task here right now is to speed up in every way the pace of drilling and the quality of hole penetration. In the order of the Ministry of Petroleum

Industry that was mentioned earlier, the goal was set of bringing output per Azneft' drilling brigade up to 8,000 meters per year for development drilling and up to 3,100 meters per year for exploratory drilling, by the end of the five-year plan.

These goals are not only achievable but they can be surpassed. Already Azneft' has many drilling brigades with high output per brigade. For example, the brigade of Hero of Socialist Labor Akif Amanov from the Ali-Bayramli UBR, during the first 8 months of the year alone, penetrated more than 9,000 meters, the brigade of Sarkhosh Mamedov from the Kyursanga UBR 6,310 meters. The brigade of Hero of Socialist Labor Salman Nagiyev from the Gobustan UBR drills deep exploratory wells at high speeds.

Making the experience of the advanced brigades the property of all collectives of penetrators of the earth's depths will bring into action great unused reserves for speeding up drilling and will raise the effectiveness of geological exploration and of drilling operations.

These days the republic's oilfield workers are promoting socialist competition for a worthy greeting for the 64th anniversary of the Great October. The number of competition participants who are reporting fulfillment of their high commitments--the prescheduled completion of annual tasks--is being multiplied.

It is the task of party and trade-union organizations and of enterprise managers, relying upon the achievements of advanced workers, to eliminate existing deficiencies in the work more rapidly and to bring into operation all reserves for raising production effectiveness. Right now it is extremely important to insure completion in model fashion of the work to prepare all oilfield drilling facilities and activities for work under winter conditions. The paramount duty of each oilfield workers' collective is to fulfill successfully the program for the first year of the 11th Five-Year Plan and to take measures to achieve high labor goals during the second year of it.

11409
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FEATS, FAULTS OF KARAGANDA COAL-MINE DESIGNERS REVIEWED

Moscow PRAVDA in Russian 23 Oct 81 p 2

[Article by Yu. Razgulyayev: "In Accordance with the Duty of the Design's Originators"]

[Text] Development of the large coal basin in the center of Kazakhstan is linked most intimately with Karagandagiproshakht [State Institute for the Design of Underground Mines of the Karaganda Coal Basin]. It is within its walls that the designs for the first mines and the first housing for the large industrial center were born.

Almost half a century has passed since then. Right now about a million people live in Karaganda and its satellite cities, and celebrated underground miners' collectives labor at Karaganda....The institute has also grown up during these years. Its workers are legitimately proud of the fact that they are the initiators of such significant designs as the world's largest strip coal mine, the Bogatyr' at Ekibastuz, and the high-capacity Vostochnaya Upgrading Plant, which are supplied with the newest equipment.

This past five-year plan was especially fruitful for the institute's designers. They prepared documentation for Sredazugol' [Central Asia Coal Production Association] facilities and provided for rebuilding many Karaganda underground mines on time and with good quality.

"The problems of reducing design time and of raising documentation quality during the reporting period was the focus of attention of the party organization," said the secretary of the institute's party bureau, P. Mukhin, in his report to the accountability and election meeting. "They were discussed regularly at meetings and bureau conferences and in party groups. An integrated plan for introducing progressive technological solutions and the newest achievements of science into the designs was worked out at the communists' initiative. According to our computations, this will enable the builders to save no less than 40,000 tons of rolled metal and about 700 tons of cement. And the use of lightweight metal structure instead of reinforced concrete at some Ekibastuz facilities has reduced construction time by almost 30 percent."

The effectiveness of the designers' efforts depends upon many things. Apropos this, participants at the meeting analyzed the status of organizational and political education work. It was noted that, in making arrangements for it, the party bureau paid great attention, especially after the 26th CPSU Congress, to the assignment of communists to the decisive sections. Thus the possibility appeared for strengthening their influence on realization of the complicated tasks that the collective faces during the 11th Five-Year Plan. Those who spoke assessed positively the practice of discussing the reports of party members at bureau sessions and meetings. Already this year, deputy director of the institute L. Vinnitskiy, group manager Kh. Valeyev and Engineer N. Trenkenshu have reported on the fulfillment of statutory and official commitments. The opinion was expressed that this practice must be improved and the responsibility of each person for the job assigned to him must be raised.

The purposefulness of the bureau and of the whole party organization, it was noted from the meeting's platform, could not help but affect the startup of the 11th Five-Year Plan. During the first 6 months of this year alone, for example, clients were sent drawings for almost 130 million rubles' worth of work, that is, designs were provided for all facilities for 1982. But will it be correct to consider this stage--the issuance of the drawings--the last in the designers' work?

Not long before the institute's accountability and election meeting, I had a conversation with Yu. Shikleyev, chief engineer for design of the Tentekskaya Underground Mine, which was recently put into operation. This is one of the basin's largest coal enterprises: its design capacity is 4 million tons of fuel per year. The date for assimilation under the standards was 1984, and my conversation with Yuriy Pavlovich involved at once the reason this period had proved to be threatening with interruption. A lack of cooperation, which has become familiar at many places, it appeared, was interfering: too much time was taken for construction, mine-geology irregularities of the seams had been encountered, and the mining units were being used poorly because of a lack of spare parts.

Well, and what if it had not been for all this? Could it have been considered then that the underground mine would have reached the planned goal on time? It turned out that it could not have. For, according to the report, in order to "straighten out" the mine, which had already been completely rebuilt, another 85 million rubles would have to be spent.

Let us note at once: this example is far from being unique. According to the data of the institute itself, 12 of the basin's 26 underground mines (not counting rebuilt mines), are operating below design capacity, 7 of them having already reached the design level but then slipped down. To some degree this is explicable: the underground mining of fuel is a complicated matter, and at times it is simply impossible to maintain constantly the volume once achieved. But indeed does it not disturb the originators of the designs, primarily the communists, that the Saranskaya, Shakhtinskaya, Toparskaya and Aktasskaya and certain other underground mines also have not reached the level of mining for which they had been designed?

The accountability report and the speeches of communists A. Rushchin and A. Gordeyev discussed the problems of designers' surveillance over construction progress and the difficulty of the interrelationships with the main client--the Karagandugol' Association. Unfortunately, almost no one mentioned the responsibility of the designers themselves for the normal progress of their "offspring" after startup, and, in particular, for the fate of the facilities that are inferior and had been cut down with their silent acquiescence. Only the institute's director, B. Kurdyayev, took note that the "actual fate of underground mines is too far from the designs."

Actually, the operators at times demolish good ideas and violate carefully designed technology in the pursuit of "rich seams." However, it is not legitimate to relieve the designers themselves of blame. An analysis indicates that, because of a substantial growth in work volume, especially for the Ekibastuz Fuel and Power Complex, the percent of institute errors has risen recently. No few alterations are being made because of the unreliability of the data on which the design was based, and, at times, interdependent institutes let us down seriously.

Or let us take the stiffest question of today for the basin's underground miners--the low pace of preparatory operations. It is because of them, more often than not, that the construction schedule is interrupted, and it is because of them that the miners, in order to carry out the plan, resort at times to violations of the technology. For this reason in particular the association's largest underground mines--the Mine imeni Lenin and the Kazakhstanskaya--are falling short hundreds of thousands of tons of deliveries today. Perhaps not a single plenum or meeting of the party's economic activists has been held but what the designers and developers have been criticized for poor mechanization of preparatory operations.

It seems that they would be the main points of application of the efforts of the institute's communists. The more so since the party organization has at its disposal such a strong weapon as the right to monitor the administration's activity, the right to hold each communist, whatever the post he occupies, accountable for the disregard of statewide interests. However, neither in the accountability report nor in the address of control commission chairman T. Akhmetzhanov was anything said about the problems of mastering design capacity and the effective use of capital investment, that is, about the real yield of the designs. Nor did it disturb the meeting's participants that, while the commission that monitors the administration's activity had uncovered some deficiencies during the year, they were, as a rule, only minor, not the main deficiencies. It is not accidental that the commissions's papers are usually simply "received as information" at the bureau's sessions.

It must be noted that these errors are characteristic not just of the Karagandagiproshakht's party organization. The Karaganda Scientific-Research Institute for Coal (KNIUI) and the design-development institute Giprouglegormash [State Design-Development and Experimental Institute for Coal-Mining Machinery] are situated along with it in the same Leninskiy Rayon of the city. Their staff workers have for long years been mulling tunneling combines and self-propelled equipment, which the miners have been expecting for a long time. And the party organizations of these institutes adhere to this passive policy. Accountability and election meetings also directly present to communists a good opportunity to discuss unused reserves and to analyze monitoring activity on the part of the party organization. Such a discussion, meanwhile, is not held everywhere. And the Leninskiy Rayon Party Committee, both before and now, has not once been interested in the commissions' activity and does not extend proper assistance to improve the content and methods of their work.

It stands to reason that monitoring does not reduce down just to the creation of commissions. In speeches, the communists spoke about the necessity for party meetings that are given more careful and thought-out preparation and for improving verification of the execution of decisions.

Experience has proved repeatedly that the fate of an enterprise is governed precisely by its design. The recently adopted CPSU Central Committee and USSR Council of Ministers decree, "On Measures for Further Improvement of Design and Budget-Estimating Matters," set the tasks of introducing the achievements of science and technology into production and of assimilating on time all the capacity introduced as primary concerns. This is doubly important for Kazakhstan's coal-enterprise designers. The current lag in assimilating underground-mine capacity poses a threat to fulfillment of the plan for mining a most valuable coal--coking coal. And Ekibastuz's strip mines have been called upon to provide during this five-year plan for almost all growth in the republic's fuel mining. This means also that the responsibility of those who stand at the springs of the "river of coal" should be measured by the highest criteria and that a genuine party and state approach to the matter is required.

11409
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KATEK COAL DEVELOPMENT

Riga SOVETSKAYA LATVIYA in Russian 17 Jul 81 p 2

[Article by Ye. Fedorovskiy: "At the Sources of KATEK"]

[Text] In the "Fundamental Directions in the Economic and Social Development of the USSR During 1981-1985 and in the Period Ending in 1990" it is written: "Continue the formation of the Kansk-Achinsk Territorial-Production Complex. Put into operation the first units of the Berezovo Coal Complex No 1 and...the first units of the Berezovo State Regional Electric Power Station No 1."

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A passenger aboard the Trans-Siberian Express would not notice any special changes in nature in the run from Achinsk to Kansk -- the same mountains, the same taiga, the same plowed, long-settled steppe. And few there are who would guess that only a few meters from the earth's surface there is an enormous coal stratum here which extends for 800 km.

When the geologists made a detailed reconnaissance of the deposit and calculated the reserves the result was amazing: 600 billion tons of brown coal! Of these approximately one-third begin from depths of 15-20 meters and extend downwards for tens of meters. It is only necessary to carry out stripping work, remove the surface layer of earth and there it is -- coal!

In order not to transport it for great distances to the user it was decided that eight large thermal electric power plants would be constructed in this region and the electric power would be carried along high- and superhigh-voltage lines. The coal mines and the thermal electric power plants, joined into a unified power complex, has been named the Kansk-Achinsk Fuel-Energy Complex (KATEK -- Kansko-Achinskiy Toplivno-Energeticheskiy Kompleks).

The first unit of KATEK -- the Berezovo Mine Complex No 1 -- with a productivity of 55 million tons of coal annually -- is situated near the Siberian village Sharypovo. Here will be constructed the Berezovo State Regional Electric Power Station-1, equal in power to the Sayano-Shushenskaya Hydroelectric Power Station -- 6.4 million kilowatts. For the time being it is marked only by a concrete pillar set in the place where the main body of the station will be situated. Not far away a settlement is being built for the builders of the state regional electric power station.

Fifteen kilometers from Sharypovo, in Dubinino village, the coal miners have taken up their residence. Here a strip mine is being worked; it resembles the gigantic "bowl" of a stadium. The excavators are already removing the coal. Soon rotary excavators of the continuous-action type will appear. They will deliver coal directly to the station by means of a conveyer belt.

A concrete plant is being erected at Dubinino and there and in its neighborhood there will be a supply and warehousing facility, motor pool, residential area with stores, dining halls, nurseries and schools. The builders at Dubinino are still faced with their main task: assembly of complex equipment which will make it possible without delays to deliver coal from the strip mine to the state regional electric power station. This equipment must correspond to the requirements of tomorrow, not today. It is being created by many scientific research and planning organizations. Metallurgists are mastering the production of durable cold-resistant steels. Machine builders are organizing the production of new giant excavators, conveyer mechanisms, dumptrucks, bulldozers and other equipment. Electrical specialists are developing designs of special electrical equipment for powerful rotary machines. The enterprises of the rubber industry are creating an exceptionally durable, cold-resistant belt for the conveyer along which the coal will travel from the strip mine to the station during any weather under the open sky.

"Well, what should the Berezovskaya State Regional Electric Power Station-1 be like?"

For the time being the station is in the form of a model which is in the office of the administrator of "Krasnoyarskenergo" Vladimir Mikhaylovich Ivannikov. He has control over all the energy resources of a gigantic area extending from the Arctic Ocean to the Tuvan foothills. He also controls the Ust'-Khantayskaya Hydroelectric Power Station, the most northerly in the world, and a cascade of electric power stations on the Yenisey and the Sayano-Shushenskaya Hydroelectric Power Station, unique in world hydroelectric power construction. But most of all Ivannikov likes thermal electric power stations, at which he worked after graduation from the institute.

"In Siberia, especially in our kray, there are many lines of industry which are hungry for power," he says. "The rates of increase in the consumption of electric power here are greater than anywhere else in the country: each year on the average by 7%. And this is some 10.5 billion kilowatt-hours. Over a two-year period the increase in consumption will exceed 21 billion kilowatt-hours. This is the annual production of such a major hydroelectric power station as the Krasnoyarskaya station. This means that in order to ensure the economy of Siberia with electric power it is necessary to do the impossible, each two years erect a new Krasnoyarsk Hydroelectric Power Station. And as time passes -- each and every year..."

"What is the solution?"

"There is one solution -- thermal electric power stations."

Ivannikov rose and approached the model:

"Here's what the Berezovskaya State Regional Electric Power Station-1 will look like. The main building will have a length of 700 m and a width of more than 200 m. Here supercritical pressure boilers will be installed. Just the furnace alone will measure 23 x 23 meters... Can you visualize that? The same as the auditorium of a modern movie theater...And the eight power units of the Berezovskaya State Regional Electric Power Station will be 800 000 KW each! It alone will produce as much electric power as the Krasnoyarskaya and Sayano-Shushenskaya Hydroelectric Power Stations taken together..."

"And what will happen to the environment when the stacks of all the KATEK stations are smoking?"

Ivannikov evidently had expected such a question.

"At all stations of the complex use will be made of the most modern means for the protection of nature. In order to lessen the harmful influence of the heavy residues of coal combustion -- poisonous oxides -- specialists have found effective regimes for operation of the boiler complexes and powerful electric filters have been created which trap virtually all the harmful effluent."

... Around the station model there are blue spots and twisting lines representing lakes and small rivers; green pastures and forests are also depicted. Ivannikov stated that the water (in actuality a component for a thermal electric power station which is as important as the coal itself) is closed in an integrated cycling system. Industrial waste will not enter the pure lakes and rivers. Nor will the superb Siberian chernozem suffer. At present it is being scraped into huge piles -- being conserved. And when the construction work ends the earth will be returned and people will begin to use it, as before, in the cultivation of grain, vegetables and fruits. Even the number of electric power lines, which take up considerable areas of forest, pasture and meadow, will be reduced to a minimum due to a sharp increase in the voltage in the net -- up to 1,150 and 2,250 KV.

The Berezovskaya State Regional Electric Power Station-1 for the time being is planned for the ordinary combustion of coal in the furnace boilers... It will produce electric power, steam and hot water. Today such a method is regarded as the most economical; it has undergone long-term checking. In the future the use of coal will be raised to a qualitatively new level corresponding to the increasing demands of production and the requirements of preservation of nature. Methods for the transformation of coal into liquid and gaseous fuel, synthetic petroleum and gas are coming into wide use.

It was not by chance that L. I. Brezhnev, at the 26th CPSU Congress, pointed out the need for "fundamental working-through of the problem of production of synthetic liquid fuel on the basis of the coals of the Kansk-Achinsk Basin." Liquid synthetic fuel will transform the typical picture of a thermal electric power station. The soot and ash, dirt and smoke will disappear and the problem of using slag heaps will be solved.

But for the time being KATEK, as the builders say, is passing through the zero cycle: residential settlements are being erected, communication lines are being laid out, a production base is being created and complex technical problems are being solved. Young people are coming here today from all ends of the country. Here they are becoming high-class specialists, are adapting to the severe conditions of nature and are developing in themselves those qualities without which the mastery of the severe Siberian expanses would be inconceivable. Even equipment here requires a special "northern design."

KATEK is a powerful and highly varied complex. Here the strength of machines, the boldness of engineering decisions and the reliability of workers are being put to the test.

5303
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FUELS

'KATEK' BUILDUP STATUS ANALYZED BY LOCAL PARTY OFFICIAL

Moscow TRUD in Russian 10 Oct 81 p 2

[Article by P. Fedirko, first secretary of the Krasnoyarskiy Kray CPSU Committee: "The Great Coal of Siberia"]

[Text] This is the KATEK [Kansk-Achinsk Fuel and Power Complex]:

- 140 billion tons of brown coal suitable for development by strip mining, the cheapest method.
- 1,150 kilovolts--current of this voltage will for the first time in world practice travel over wires from Siberia. The electric-power transmission line will be 1,500 kilometers long.
- 15 percent of all mining of coal by the strip-mining method in the country is being mined here today.

Immense natural wealth which is being placed increasingly at the service of the national economy has been concentrated in the vast spaces of Krasnoyarskiy Kray. Huge regional production complexes and industrial clusters are being established in our kray, and new cities and settlements are growing.

One of them is the Kansk-Achinsk Fuel and Power Complex. The CPSU Central Committee and USSR Council of Ministers decree about Krasnoyarskiy's second 10-year plan--a program for the further integrated development of the kray's productive forces during 1981-1990, which was adopted at the end of last year--told about the important role assigned to KATEK in the country's power engineering. The establishment of KATEK is a most important component of this program. And, finally, there is still another basic document--the recently adopted CPSU Central Committee and USSR Council of Ministers decree, "On Additional Measures for Speeding up the Development of Strip Mining of Coal in 1981-1990." It contemplated specific measures for accelerating assimilation of the Kansk-Achinsk Fuel and Power Complex.

Such attention to the Siberian region is completely understandable. The complex's brown-coal basin is situated in our kray's central region--along the Trans-Siberian Mainline. It is about 800 kilometers long, and its seams average 12-60 meters in thickness, lying at an insignificant depth. The capacity of KATEK's strip mines will be 50-60 million tons of coal per year each. Powerful GRES's and TETs's, which are being erected and designed for the long term, will enable the kray's dynamically developing economy to be supplied completely with electricity and thermal energy. Moreover, a large amount of electricity will be sent to the Urals and to the European portion of the country.

Power engineering is the heart of KATEK. The Berezovskaya GRES No 1 alone, with a capacity of 6.4 million kilowatts, will give as much electricity as the Krasnoyarskaya and Sayano-Shushenskaya Hydroelectric Power Stations combined. There will be several such GRES's at the complex. It is also planned to erect some subordinate stations, which will cover the thermal and electrical loads of many cities and industrial centers. Thus, our kray will be a huge power-engineering base, the importance of which will extend far beyond Siberia's borders.

In the Accountability Report of the CPSU Central Committee to the 26th Party Congress, Comrade L. I. Brezhnev emphasized the necessity for a thorough study of the question of producing synthetic liquid fuel based upon Kansk-Achinsk basin coal. The possibility of obtaining refined solid, gaseous and synthetic liquid fuel, as well as some valuable chemical compounds, from this coal has already been proved. Scientists and designers have developed a feasibility study for building a high-capacity energy-industry combine, which should produce electrical and thermal energy, synthetic liquid fuel and chemical products. A ton of this fuel is capable of competing in cost with products refined from Tyumen' crude oil.

But the complex does not consist just of gigantic strip mines, power stations and new enterprises and plants. There are also new, modern cities and a substantial rise in the amenities and in the cultural level for Siberians. For in the final analysis, the wealth of the complex is intended for and will be utilized primarily in the interests of the people.

A number of construction and installing organizations are now operating in the complex's zone. They are erecting the Berezovskiy-1 Strip Mine, with a capacity of 55 million tons of coal per year, rebuilding the Irsha-Borodinskiy and Nazarovskiy Strip Mines, with a substantial growth in capacity, laying railroads and highways, and erecting electric-power substations, power transmission lines and enterprises of the building-materials industry and the construction industry. The first gratifying results of the joint efforts of the builders and operators are in. For example, the average annual output of single-bucket and rotary excavators and labor productivity per worker at the complex's strip mines exceed the industry's indicators.

And Siberia's Uralmash--the Krasnoyarskiy Heavy Excavator Plant--is being erected at an accelerated pace. In 1982 it should yield its first output--excavators--for KATEK's strip mines. And in 1983 the output of badly needed rotary complexes will be started here.

The construction of such a huge fuel-and-power complex has stimulated great interest on the part of the Soviet people. Thousands of letters from those desiring to take part in erecting the cities and in operating the enterprises are coming to the construction project from all parts of the country. Does this mean that there are no problems with labor resources at KATEK? Unfortunately, there are problems. They are associated primarily with the low pace of construction of housing and of social and cultural facilities and the amenities, especially at the center of the complex--the city of Sharypovo.

I will cite this example. In order to provide for timely startup of the first capacity at the Berezovskiy-1 Strip Mine and the first power unit of Berezovskiy GRES

No 1, about 600,000 square meters of housing and a large number of facilities for social and cultural purposes must be built in Sharypovo. Indeed, by 1983, the population is expected to grow to 70,000 here.

The main general contractor--Katekenergostroy [Trust for the Construction of KATEK Power-Engineering Facilities] of USSR Minenergo [Ministry of Power and Electrification]--still is not coping with this task and has permitted a substantial lag in the introduction of housing and facilities for social, cultural and domestic-amenity purposes.

The basic cause is concealed by the fact that the ministry delayed in beginning to create its in-house housing-construction base at the complex. And it is not being done at an adequately rapid pace. Parts for the housing are being shipped from other ministry enterprises in inadequate amounts and with irregularity, coming over great distances. And sometimes the quality is low. As a result, Sharypovo of late has been entirely transformed from a workers' settlements into a city, but it is being built up without expressiveness, with housing of an obsolete series, and in an unintegrated fashion. Already today this is causing serious difficulties in furnishing cultural services and domestic amenities to residents. We consider that USSR Minenergo should take drastic measures to speed up the introduction of an in-house production facility for building housing at the complex.

A number of important problems in the construction of facilities for the complex remain to be solved by Mintransstroy [Ministry of Transport Construction]. The task of the transport builders is to provide an outlet for the coal, from KATEK's first strip mine to West Siberia. Recently, this ministry has been building up the capacity of its collectives at the construction project, and the amount of work thus performed increased 1½-fold. However, this growth is still inadequate for today's requirements, and it is lower than noted previously.

Neither do you call the situation with regard to the construction of hard-topped roads favorable.

The program to create KATEK includes the solution of many scientific and technical problems. Therefore, many academic and industrial institutes and design-development organizations of Moscow, Leningrad, Novosibirsk, Rostov-on-the-Don, Kiev and other cities have gone into the orbit of the creators. A scientific council on KATEK problems has been created and a program of scientific research for the next few years and for the long term has been developed. For example, Krasnoyarsk University scientists, jointly with those of Novosibirsk, are occupied with developing an integrated wastefree chemical-energy technology for processing KATEK coal with the use of MGD [magnetohydrodynamic] generators.

An institute, Katekniiugol' [Scientific-Research Institute for KATEK Coal], was opened up recently in Krasnoyarsk. It has been called upon to concern itself with problems of the integrated processing of Kansk-Achinsk coal, including the extraction of synthetic liquid fuel. Right now much work is needed in creating a science-and-production base for the institute, without which the problems posed for it cannot be solved. And we have a right to expect meaningful assistance in this regard from USSR Minugleprom [Ministry of Coal Industry].

Questions of protecting the environment require the special attention of all participants. It should be noted that many designers of KATEK enterprises and facilities approach the solution of this task extremely seriously. The areas chosen for construction are, as a rule, located on lands that are not suitable for agriculture. A variant for the construction of cooling ponds on the Chulym River was altered because of their unfavorable effect on the river. It is planned that lands that are subject to mine excavation will be recultivated basically as plowed fields, the recultivation process being incorporated in one stroke with the technology of the mining operations. Biological purification of drain water and the wide use of a recycled and recirculated water supply are called for.

In order to capture solid particles from stack gases, electrostatic precipitators with an efficiency factor close to unity are planned. Design-development work on new firebox arrangements are being conducted that will enable nitrous oxide discharges into the atmosphere to be reduced considerably.

The creation of energy-industry combines will enable combustible gas and upgraded solid fuel to be consumed in fireboxes, which also will reduce pollution of the air basin.

These studies will be conducted within the framework of the KATEK ecology program, the coordinator of which is the Institute of Geography of Siberia and the Far East of the Irkutsk Branch of the Siberian Division, USSR Academy of Sciences. However, the realization of this program as a whole, in our view, is not active enough. The lag on a number of questions about scientific research creates a gap between the scientists' recommendations and the design solutions that are applied.

Work on the given program was not included in the plan for the current five-year period for various scientific-research institutes. And USSR Ministry of Land Reclamation and Water Resources does not in practice participate in solving problems of water usage in the complex's zone. The question of the storage and utilization of GRES waste--ash and slag, as well as overburden, have not been solved finally. Minenergo, Minugleprom and USSR Minstroymaterialov [Ministry of Construction Materials Industry] are not helping to work out a unified approach to the solution of this problem.

The collectives of construction and installing organizations employed at KATEK are made up basically of All-Union shock-work construction detachments. Three such detachments--more than 3,000 people--have come to the complex's facilities. Most of the young men and women have construction specialties, but those who do not obtain them in training-school combines. Tutorships also have been widely developed at the construction project.

A coordinating trade-union council was established not so long ago at KATEK. It took upon itself the organization of socialist competition among collectives that are erecting KATEK facilities and a concern about the housing and amenity needs of the builders.

The conclusion of agreements about the creative collaboration of collectives of scientists, designers, builders and equipment suppliers also has been widely developed here. As is known, this form of socialist competition was born in the collectives that were participating in the construction of the Sayano-Shushenskaya GES. It was approved by the CPSU Central Committee, and the kray's party organization is striving to disseminate it to all the kray's large construction projects.

The number of participants in creative collaboration for the creation of KATEK is constantly being expanded. On the 111th anniversary of V. I. Lenin's birth, representatives of more than 50 of the country's collectives signed at the kray center an agreement that specified their commitments during the 11th Five-Year Plan on problems of establishing KATEK.

With the active participation of the famous builder, Hero of Socialist Labor V. P. Serikov, wide use of the start-to-finish brigade contract began. The integrated mechanized brigade of S. Buryy of Katekenergostroy is competing successfully with I. Surgut's collective, which is working on erection of the Krasnoyarsk Heavy Excavator Plant.

Creation of the complex has required precise coordination of the forces of all interested organs--party, soviet, trade-union and economic. For this purpose, a coordinating council has been organized under the kray committee. It will keep progress of the design and construction of the complex's facilities under monitoring, paying special attention to creation of the production and nonproduction infrastructure.

However, life testifies graphically that such a coordinating council at the kray level alone is clearly inadequate for solving all the problems that arise with the establishment of such large TPK's [regional production complexes]. Indeed, construction participants frequently are located in different parts of the country, and their bureaucratic interests do not always coincide. How to overcome these bureaucratic barriers?

There is one way out: complexes such as KATEK need a coordinating organ whose decisions will be binding on all participants in realization of the large-scale long-term program. Regardless, so to speak, of their rank and office sign. But, for responsive management, it is desirable to have locally, at Sharypovo, a subunit of this central organ. A sort of unified board of directors for the construction project. It could work in close contact with local party and soviet organs and insure the execution of plans for economic and social development that have been worked out.

The first steps have thus been taken today in establishing KATEK. They have revealed not only the possibilities and reserves but also deficiencies in this large and important work. No little effort still has to be invested to solve problems of building up the capacity of the construction and installing organizations, establishing collectives of operating personnel, creating a reliable base for the construction industry, and solving in integrated fashion questions of KATEK's social development.

And the just-published CPSU Central Committee and USSR Council of Ministers decree, "On Additional Measures for Speeding up the Development of Coal Strip Mining in 1981-1990," also is aimed, in particular, at this.

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EKIBASTUZ URGES PRODUCTION OF LONG-DELAYED IMPROVED EXCAVATOR

Moscow PRAVDA in Russian 27 Oct 81 p 2

[Article by N. Belik, technical director of the Ekibastuzugol' Production Association and USSR State Prize Winner, and A. Gridnev, deputy chief of Administration of USSR Minugleprom [Ministry of Coal Industry] (Ekibastuz-Moscow): "A Machine for Strip Mines--How to Speed up Its Output"]

> [Text] A strip mine produces an indelible impression on a person. Black seams that are meters in thickness, freed from the ground that hid them, giant excavators, and a continuous chain of railroad cars or dump trucks. Each year the flow of fuel mined by progressive strip mining is heavier. Today strip mines are giving more than a third of all the country's coal. And this share will grow constantly. New equipment will help the miners to solve the complicated task of increasing fuel production. But does it always correspond with the requirements that have been presented? The article published below is dedicated to this question.

Today Ekibastuz is giving the most coal that is surface mined. Daily, as many as 3,000 freight cars of fuel are dispatched from here to power plants of the Urals, Siberia and Kazakhstan. The Bogatyr' Strip Mine alone sends about 50 million tons per year, and almost all this coal is mined by rotary excavators.

It is precisely thanks to these progressive machines and the technology that was specially created to take their capacity into account that it was possible to bring the Ekibastuz basin's mining volume up to such an impressive scale in a comparatively short time. The miners' and designers' success was recognized with the USSR State Prize in 1978. Following Kazakhstan, the Krasnoyarskugol', Vostsibugol', Primorskugol' and a number of other associations began to use rotary excavators successfully. In looking ahead, then, as was noted in the recently adopted CPSU Central Committee and USSR Council of Ministers decree about developing strip coal mining, these highly productive continuous-action units should become the main type of equipment here.

Today rotary excavators with a productive capacity of 1,250 cubic meters of coal per hour are being used more widely in the USSR Minugleprom system. The Donetsk Machinebuilding Plant imeni Leninskiy Komsomol Ukrainy ships them. Twenty-three such machines are mining 58 million tons of coal per year in various basins. But more powerful units, with a productivity of more than 5,000 cubic meters of coal per hour, have passed their tests and are being operated successfully under production conditions.

Well, what did the use of rotary excavators do for coal mining? First, annual output per unit was raised to 4-9 million tons. For comparison, let's say that the single-bucket excavators now widely used are giving no more than 1.5-2 million tons per year. Second, the new machines have enabled the quality of commercial steam coal to be greatly raised. The fact is that if a few lumps of coal more than 30 centimeters in size get into the railroad car, a blockage occurs during unloading at the electric-power station. Single-bucket excavators could not meet this requirement, which is laid down in strict GOST [State All-Union Standards] requirements. And so at times it has been necessary to unload railroad cars that are ready for dispatch in order to crush the coal to make it meet the requirements. It is important, therefore, that only rotary excavators have made it possible to excavate the mine face selectively, separating, in so doing, the coal from the rock. The precision in putting the right amount of fuel aboard railroad cars during loading has been raised greatly.

But nevertheless, however good rotary excavators may be, they also are not devoid of certain inadequacies. First of all, they have great specific metals intensiveness. In order to produce a machine with an output of 5,250 cubic meters per hour that is reliable enough, almost 6,000 tons of metal must be "invested" in it.

A high price also has to be paid for solving the problem of "lumpiness" of the coal. For this purpose, a special crusher of high productivity has been built into the excavator's conveyor system. Ask any machinery operator or mechanical engineer which component in a machine is the least reliable. They will answer unanimously: the crusher. It goes out of order fairly often, and then the operator is simply compelled to exclude the crusher from the operating chain. Moreover, in providing for reliable dimensions of lumps of commodity coal while it is being loaded into railroad cars, the crusher by no means protects those excavator components that have preceded it--the rotary working implement and the receiving belt conveyor--from lumps. Chunks of coal and rocky interlaying at the mine face are a real scourge for rotary excavators, and up to half of all idle time from breakdowns involving expensive machinery is associated with them.

The designers' efforts of many years to improve rotary excavators with the traditional so-called gravitational implements have not brought the desired results. Is it impossible to find a way out from the critical situation? And is it necessary to pay additional expense in metal and reduction of quality of the coal for high productivity? No. A design solution that will eliminate all these deficiencies has already been developed and tested in practice.

We are speaking about a new implement for an excavator--a high-speed centrifugal rotor. It was created by the Donetsk Machinebuilding Plant imeni Leninskiy Komsomol Ukrainy in collaboration with Kiev's UkrNIIproyekt [Ukrainian Scientific-Research and Design Institute for the Coal, Mining and Gas Industries] and Ekibastuz Association miners.

How is the new rotor different from ordinary units? If you put it alongside an old one, then even a nonspecialist will see the difference. The diameter of the new rotor is half that of the gravitational rotor, but then it rotates 3.5-fold faster.

This enables excavator weight to be reduced considerably. Given identical basic parameters, it can be reduced by a third. Increased cutting speed and design characteristics of the buckets preclude the intake of large lumps. Enormous chunks of hard coal or rock formed by the blasting literally "melt" before the eye when it encounters the centrifugal rotor. The working implement and boom and the receiving conveyor are reliable in operation and simple to service.

It should be recognized, of course, that the high-speed rotor, like any innovation, has deficiencies: because of the high rotating speed, much dust is formed and spillage increases. Specific consumption of electricity is somewhat greater. But it cannot be said that such deficiencies cannot be eliminated, and design work in this direction continues. As a whole, a check of the new rotor over several years under the severe, realistic conditions of an operating strip mine has proved its numerous advantages.

The first centrifugal rotor in the coal industry was put into operation at the Tsentral'nyy Strip Mine back in 1969. At once it proved itself well at work, and it became clear then to most specialists how promising this solution was. In 10 years the test excavator dispatched more than 28 million tons of coal. During this time the centrifugal rotor has passed through all the mine-geology thresholds of the Ekibastuz field, and it was checked comprehensively by the miners. The operators' opinion was unanimous: excavators intended for Ekibastuz and other fields of the country's east should be equipped only with such implements.

It would seem that this equipment would have been given the "green" light. Actually, something else happened. From 1970 to 1976 the Donetsk plant took practically not one step toward introducing the centrifugal rotor. It very tranquilly continued to produce the old excavators. And only after numerous urgent requests from Minugleprom and citation of UkrNIIproyekt's design work did the matter advance beyond dead center.

Last year a new rotary excavator, the ER-1250-OTs, with a centrifugal working implement, finally appeared at the same Tsentral'nyy Strip Mine. This is in essence a serially produced ER-1250D on which only the boom and the rotor were replaced. But, on the other hand, how much its technical characteristics have changed! On the new excavator the specific cutting force has been increased by a third, expanding the potential for mining coal of greater hardness. Width of the mine face being worked has grown by 6 meters, and the amount of labor-intensive work of relaying railroad track has been reduced by 25 percent.

The test unit was entrusted to the brigade that had for 10 years operated the first model. And it at once proved what a centrifugal rotor means. The machine started operating at full speed, practically without breakdown and productively. In comparison with the serially produced ER-1250D excavator, which operates at an adjoining mine face, in 1½ years it saved 25,000 rubles in operating expenditures, and idle time because of breakdowns was halved. And at the start of October PRAVDA reported that G. Mozer's brigade from the Tsentral'nyy Strip Mine of the Ekibastuzugol' Production Administration, in mastering the centrifugal excavator, had exceeded the designed productivity of its mining complex by one-third.

Many equipment operators have asked the association's managers to install the new rotors on their excavators also. But we cannot in any way reassure them by telling them we cannot do so yet. At the interagency commission for acceptance of the new excavator, representatives of the Donetsk Machinebuilding Plant flatly refused to sign an affirmative acceptance certificate. No arguments of any kind by the large collective of specialists from the Ekibastuzugol' Association and the Tsentral'nyy Strip Mine helped. A special conference with the Deputy USSR Minister of Coal Industry was required before the plant finally recognized its offspring. It was decided that the Donetsk plant should master the series production of ER-1250-0Ts excavators in 1983. But preparations for doing so are proceeding very slowly.

Thus the new rotor has required more than 15 years to traverse the path from the first test model to series production. But to say that all the obstacles in its path have now been eliminated is, in our view, premature. The machinebuilders are searching for the most varied excuses to avoid rebuilding the production facility, which has already been arranged for, and to avoid the increased bother of mastering the unit that the miners are impatiently waiting for.

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MINERS COMPLAIN OF COAL DUST

Moscow TRUD in Russian 17 Jul 81 p 2

[Article by Yu. Rybalov, mining engineer, V. Armyanovskiy, metal worker, and N. Mokrishchev, TRUD correspondent: "The Dust Rises in a Column"]

[Text] Letter to editor: I have been working in the mine for almost 20 years. We have received many powerful machines during this time. This has greatly facilitated the work of miners. But at the mine face we are still forced to breathe coal dust. And there is no way to avoid it. Cannot scientists devise some effective method for contending with dust?

D. Pechkovskiy, drifter at the "Kirovskaya" mine, "Donetskugol'" Combine

When a coal or drifting combine is in operation the dust literally rises in a column and the methods for suppressing it are inadequately effective. Individual means of protection in the form of ordinary respirators are of little help.

Already 20 years ago miners appealed to scientists and designers, asking them to create a fundamentally new method for the contactless destruction of rocks and coal. And then, in October 1960, an agreement was reached among the scientists of the Institute of Hydrodynamics, Siberian Department, USSR Academy of Sciences, specialists of the "Giprouglemash" institute and the personnel of the Yasinovatsk Machine Building Plant for the development of a drifting combine with a pulsed water drill. The first model appeared in 1964. A water drill was installed on the PK-3 combine in place of its working tool with cutters. It was tested at the "Novogrodovka" mine in Selidovo city.

It was then possible to penetrate 3 1/2 meters by means of water. For the first time in the country it was possible to demonstrate the viability of the idea itself under production conditions. It would seem that the problem was close to solution...

With the head of the Division of Long-Range Technical Development of "Dongiprouglemash" and the scientific director of experimental studies, A. Petrakov, we leaf through the yellowing pages of the reports and look through photographs. A whole five years after the tests of the first water drill work along these lines had scarcely warmed up. Miserly sums have been allocated for this purpose. But in 1970 the situation did change a little. An apparatus of a new design was constructed and two years later an experimental model of a drifting combine with a pulsed water drill on the basis of the 2PNB-2 rock-loading machine made its appearance.

Five more years passed from the appearance of the idea to the construction of a water drill with a weight of 2 1/2 tons. And only in 1976, at the "Korotchenko" mine at Selidovo, work began on the testing of the drilling combine.

A total of 100 m of drift were worked. In 1977 an interdepartmental commission of the USSR Ministry of the Coal Industry recommended the construction of an experimental model of the combine after the high-pressure chamber of the water drill shaft could withstand 50-60 thousand "shots." This is adequate for penetrating approximately 40 m of drift. It has already been possible to "shoot" 59 thousand times from one shaft. And penetrate 30 m of drift...

"This chamber has become a real stumbling block for us," says A. Petrakov. "The water pressure in it is raised to 10,000 atmospheres 10-12 times each minute. We began literally from zero, checking out the design of each component of the water drill, not having at our disposal any analogues, making use only of the trial-and-error method."

"In 1978 the Institute of Superhard Materials, Ukrainian Academy of Sciences, and the Donetsk Physical-Technical Institute came to our assistance. A true technical solution has been found. It must be perfected, but our resources, unfortunately, are weak. In essence, only one man is occupied with this important problem and attention from the leadership of the institute is obviously inadequate," laments Aleksandr Ivanovich. "The reliability limit is approaching its first goal. Already it has been possible to drive a meter of drift with a cross-section of 12 square meters and a rock strength to six scale units per shift. Measurements have shown that when the water drill is in operation there is virtually no dust in the air. The water apparatus 'nips it in the bud.' Finally, a high-pressure chamber with the use of durable wear-resistant materials is being constructed. This should double the reliability, or triple it. But with all this the water drill remains a 'bird in the bush'."

Why do the leaders of the institute act so cooly relative to the water drill?

Aleksandr Il'ich Bashkov, director of "Dongiprouglemash," answered us: "For the time being work is proceeding on a search for materials, technology and a design solution. When there is a solution there will also be people."

But how will a solution be obtained when it took 3 1/2 years instead of 1 to fabricate a water drill at the experimental plant of "Dongiprouglemash" and it took [illegible] 1/2 years more to construct three spare chambers?

Therefore, today, 20 years later, the path to only one solution has been found. But its perfection is required -- with respect to both design and technology of production. There must be timely production of experimental components and parts, they must be tested, refashioned and tested again. At the same time, other approaches must be sought. It is understandable that all this is within the capabilities of only a group of designers and technologists consisting of six or seven men, relying on the attention and support of the directors of "Dongiprouglemash."

We feel that the work of Donetsk enthusiasts merits the assistance and support, in particular, of the USSR Ministry of the Coal Industry.

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Opinion of a Physician. The following comments were made by N. F. Izmerov, corresponding member, USSR Academy of Medical Sciences, director of the Scientific Research Institute of Work Hygiene and Occupational Diseases:

"Contending with dust in mines is an acute social problem. According to the sanitary-hygienic norms the maximum admissible concentration of dust at the face must be no greater than 10 mg per cubic meter of air. But at a number of mines, especially in the Donetsk Basin, the quantity of dust in the air exceeds the admissible norm. Modern technology, which is being used in mineral production, has almost no effective and reliable apparatus for contending with dust."

"I think that the innovation of Donetsk specialists should be introduced as rapidly as possible."

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Question to B. F. Bratchenko, Minister of the USSR Ministry of the Coal Industry

Respected Boris Fedorovich!

Twenty years have passed since work began on the creation of a pulsed water drill. Judging from the results of the first experiments and the responses of our own specialists and those abroad, the water drill has a great future. It will make it possible to deal with the worst enemy of miners -- coal dust. Is it necessary to mention how badly miners need such an apparatus!

Judging from the communication in the TRUD commentaries section, there are no insuperable obstacles to the creation of a water drill. We would like to know, Boris Fedorovich, when the first water drill will make its appearance. It is impossible that the creation of a valuable machine be postponed another 20 years. After all, what we are really talking about is the health of miners.

5303
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MINERS COMPLAIN OF LACK OF PROPER MACHINERY

Moscow PRAVDA in Russian 2 Jul 81 p 3

[Article by P. Patrushev, honored miner, bearer of the Work Glory Orders Second and Third Degree, brigadier of a complex mechanized brigade at the "Khakasskaya" mine, Chernogorsk, Khakasskaya Autonomous Oblast: "Losses...From Savings"]

[Text] The "Khakasskaya" mine where I work is one of the outstanding mines in the branch. Already now for the second five-year period it is giving users only high-quality sorted coal. The solid fuel of our Chernogorsk deposit is being sent to a number of Siberian cities, to thermoelectric power stations, including to the Tom'-Usinsk state regional electric power station, the largest in the region. Our coal will be used in operation of the Abakansk central heating plant, the largest in the southern part of Krasnoyarskiy Kray.

At the mine there are many reserves for increasing fuel production. The personnel have unanimously supported the call from Moscow: "The Year's Goal by 7 November!" To be sure, coal production in many respects has its own specific character and one should not count on a great overfulfillment of the plans. And nevertheless there are possibilities for an increase in the production and delivery of solid fuel to users. During the last five-year plan our brigade has sharply increased the daily productivity of the complexly mechanized drift, by the end of the year bringing it to 1,200 tons daily, or reckoned per member of the brigade, 400 tons of coal each month. The team produced 19 trainloads of fuel above and beyond the annual program.

In February we proceeded to work in a new 150-m drift. During one cycle two coal combines here feed to the unloading conveyer 300 tons of fuel and in 24 hours the combines are capable of handling five and even six cycles. This is really 1,500 to 1,800 tons of fuel daily and during a year -- up to a half-million tons. Since there are two operating drifts at the mine, there is a real possibility this year for producing a million tons of coal in comparison with 780,000 tons according to the plan.

However, the first quarter has ended and no one is pleased with the results. The drift has not reached the planned production level. Even worse, the daily production of fuel has even fallen by 200 tons in comparison with the past year. The results of the other parallel brigade headed by V. Medkov are no better. It could not even attain the 1,000-ton daily coal production mark. Things also did not go right in May.

In general, there has obviously been a step backward from the positions which had been won. What has brought this about? The reason is that while bringing new drifts into production, while putting new production equipment at the disposal of miners, no one concerned themselves with renovation of the sorting-enrichment complex at the mine. Its handling capacity is small and it is literally flooded with the flow of coal coming from our drift alone. And the new drift of V. Medkov will soon reach its planned production. The belt conveyers running from the mine faces to the surface stand idle each shift for 1 1/2-2 hours because they break down due to the excessive wear of the sorting mechanisms.

Now attempts are being made to provide excuses. The plan for the reconstruction of our mine was developed at the "Krasnoyarskugol'" Combine, specializing for the most part in the strip mine production of fuel. They say that the misreckoning occurred because our two Chernogorsk mines were "not down the alley" of the combine. They say that the specialists were not adequately qualified.

There is also another explanation. "Krasnoyarskugol'" developed the plan for reconstruction of the "Khakasskaya" mine in collaboration with the Irkutsk institute "Vostsibgiproshakht," for which the cost of the project was of more than a little importance. And in order to reduce the cost it was decided that a new sorting-enrichment complex would not be planned. The new capabilities were tied in with the old sorting equipment which was on its last legs. In actuality, it was possible to reduce the number of blueprints and lower the cost of the work. The planners were possibly even commended for the saving. But for us miners, and indeed for the country, this saving was expensive.

Let's reckon up the cost. In order to rectify the error, to formulate a plan for a new sorting-enrichment complex, and then order the equipment, bring it to Chernogorsk and set it up, will require not less than a year. During this entire time our brigade will daily fail to produce 200-400 tons of fuel. In the first quarter alone we went into debt to the state for 10,000 tons of coal. During April and May it was possible to remove this indebtedness. But the loss of 10,000 tons remains a loss. It is a pity that due to the unreliable operation of the old, worn-out sorting apparatus now in use the brigade will not be able to use its mechanized complex to the full degree. We will produce at least 55,000 tons of fuel less than we could. This is hundreds of thousands of rubles lost! And since there are two operating drifts in the mine this loss must be doubled.

At Party and worker's meetings the miners ask: who is personally responsible for this slip? Who thought up the completely unsuitable project? It is virtually impossible to get an answer to these questions from the "Krasnoyarskugol'" Combine or from the directors of the institute "Vostsibgiproshakht." The names of the poorly performing planners are carefully concealed by the directors of the institute. We would very much like to invite them to our mine, to a worker's meeting, and frankly express exactly what we think of them.

There are more than a few such blunders in the practice of our branch. Other errors are not so great, to be sure, but they also cause many inconveniences and give rise to many problems. For example, consider the supply of combines with cutting teeth. The fact is that the coal of our deposit is very viscous and there are large inclusions of waste rock. And therefore the cutting teeth of the coal and drifting combines wear out two or three times more rapidly than provided for by the all-union average branch norms. Nevertheless, we obtain these parts in accordance with such norms. Evidently in the "Uglesnab" Administration of the USSR Ministry of the Coal Industry they also worry about saving money, in this case, saving hard alloys; meanwhile at the edge of the mine face the "toothless" combines come to a standstill. And the cost of these stoppages -- hundreds of thousands of rubles -- is more expensive than the cost of additional supplies of teeth.

Let's hope that in the future we will save in a more prudent way. Otherwise the economy will suffer additional losses.

5303
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FUELS

NOVOPSKOV-VOROSHILOVGRAD GAS PIPELINE ACCEPTED FOR OPERATION

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 1 Nov 81 p 1

[Article by A. Avdeyev (Rostovskaya Oblast): "Urengoy Gas in the Donbass [Donets Coal Basin]"]

[Text] Thirty, forty, fifty....The hands of the manometer unhurriedly count off the divisions on the scale, and the people who are following it quietly record the instrument's indications. This calm businesslike atmosphere can be misleading, creating the impression that the people are engaged in ordinary and easily boring duties--you glance at the hand, write the data down in a journal and send it to one's superiors: "Pressure 60, pressure 70...." And so on up to 82.5 atmospheres--the limit of the load during the tests. This force presses right now on the walls and joints of a pipe 102 kilometers long. The gas pipeline laid from Novopskov to Voroshilovgrad is being tested.

"You have inquired about the most difficult days of construction. These are not days but hours--hours of testing the route. Everything has been done. Everything is behind. Nothing can be changed. Nothing is left to be done but wait...."

Rostovtruboprovodstroy [Trust for Pipeline Construction in Rostovskaya Oblast] Manager Vladimir Stepanovich Nuzhnyy glanced by habit at the clock and again looked at the diagram of the route. Its final point is Mozdok. This section is noted for the fact that it has "brought" Urengoy gas to the land of Donetsk. The "blue fuel" of the richest Tyumen' fields is already being used by many industrial regions of the central and western parts of the country. Now they have opened up a path to the Donbass and the Transcaucasus.

"Originally it was planned to introduce our section of the route in 1982," says V. Nuzhnyy. "Then it was decided to turn the gas pipeline over in December. Our collective undertook a commitment to complete the work by 7 November--the 64th anniversary of the October Revolution."

The commitment was carried out. But the joy of victory will come to the builders later on. There is still the testing. The instruments show the maximum load. The observation posts on the route report: "There are no breaks on the route." Now it is necessary to wait for confirmation of the gas pipeline's tightness of seal.

The time drags on. The reliability of the work, the skill of the builders is being tested. People are anxious.

Present are equipment operators, or, as they are customarily called, earthmoving excavator operators A. Mal'chikhin and M. Popov and bulldozer operators A. Shipovnikov and G. S"yedin. It is they who, from month to month, headed the list of competition winners, exceeding by twice the daily output norm. Indeed, the most complicated obstacles arose in their paths at times. In Novopskov, for instance, they had to go 8 meters deeper, laying the ditch under five existing gas pipelines. This work was then called jewelers' work, although it was done with the bucket of an excavator.

Welders from the brigades of Yu. Ashikhmin, P. Chalyy and M. Shestakov, encountered no fewer difficulties working in river floodplains, overcoming water obstacles and piercing the soil under arterial highways and railroad mainlines.

Insulation workers on the route achieved a record speed. At first, it is true, not everything went smoothly. They had to readjust the equipment to make it work on large-diameter pipe. But experienced specialists who knew the job well had been selected. For example, Mikhail Makarovich Suvorov has been working on pipelinelaying for a quarter of a century. He has been awarded Orders of Lenin, the Labor Red Banner and the "Emblem of Honor." He has so many pipeline routes behind him! And the experience here has topped each of them.

It is impossible to get accustomed to it. Too much protracted labor has been invested daily to remain indifferent during these tedious hours of the main examination. That is why everyone here is anxious.

"There are no leaks," the observation posts report from the route.

"Now the pressure will be brought up to operating pressure," explains V. Nuzhnyy, "and the state commission will sign the certificate of acceptance of the gas pipeline for operation."

The test has been completed. Urengoy gas has come to the Donbass.

11409
CSO: 1822/35

FUELS

CAPACITY OF MUBAREK, SHURTAN GAS COMPLEXES BEING EXPANDED

Tashkent PRAVDA VOSTOKA in Russian 16 Oct 81 p 2

[Article by A. Atadzhanov, chief of the All-Union Industrial Association Soyuzuzbekgazprom: "The Flow of the 'Blue Fuel' Is Being Augmented"]

[Text] The country's gas industry has been given the following mission for the 11th Five-Year Plan: execute in practice and as quickly as possible the program for boosting gas-recovery development as a task of paramount importance. Gas-output volume will be increased appreciably throughout Uzbekistan in 1985.

The republic's gas industry has entered a qualitatively new and more complicated step of development, which is characterized by the natural depletion of the reserves of sulfurfree gas in the Gazli group of fields and by the shifting of the raw-materials base to the Mubarek and Shurtan-group regions. The enormous reserves of hydrogen sulfide-containing gas that have been discovered here will require the expansion and construction of more complicated and labor-intensive complexes for the treatment and refining of gas, trunk gas pipelines made of special pipe of increased reliability, and so on.

The efforts of the collective of the All-Union Industrial Association Soyuzuzbekgazprom are aimed at solving these problems. Thanks to the inspiring work of the association's workers, it has been possible not only to avert a reduction in gas recovery but even to increase it by almost 2 billion cubic meters per year.

The construction in a crash-work period and the introduction into operation in 1980 of the Shurtan gas-condensate field and the Shurtan-Syrdar'inskaya GRES gas pipeline, which is more than 400 kilometers long, is an example of skillful organization of operations.

Introduction of the capacity at Shurtan was evaluated highly by the CPSU Central Committee. In his greetings, Comrade L. I. Brezhnev remarked on the selfless and imaginative work of the workers, engineers and technicians, of the design-institute workers, and of all who participated in the construction work.

The republic's gas-industry workers, in accordance with the example of Tyumenskaya Oblast oil and gas field workers, were included in the socialist competition for achieving ahead of schedule the goals contemplated for the end of the five-year plan.

In responding in practical fashion to 26th CPSU Congress decisions, the association's collective recovered above plan more than 170 million cubic meters of gas, 40,000 tons of condensate and 2,000 tons of crude, it processed more than 63 million cubic meters of gas above the plan, and sulfur output was brought up to 157,000 tons, which is 47 percent higher than for the corresponding period of last year.

The capital construction task was also carried out. The center of attention now is the concern about introducing the third phase of the Mubarek Gas Complex ahead of time. Two sulfur-scrubbing units with a productivity of 3.5 billion cubic meters of gas, an installation for producing sulfur with a capacity of 294,000 tons, integrated gas-treatment installations with a capacity of 2 billion cubic meters per year each at the Zevardy and Dengizkul'-Khauzak fields, water-intake structures of the Kuyu-Mazar-Mubarek GPZ [gas-treatment plant] 107 kilometers long, and a compressor station of 44,000 kilowatts power at Mubarek have already been turned over for industrial operation. Fairly good results were also achieved during the second phase of the Shurtan complex, which will have a capacity of 4 billion cubic meters of gas per year.

The introduction of these facilities into operation ahead of time will be a base for the successful fulfillment of plans and commitments for the year and a concrete contribution by the republic to fulfillment of the party's and government's decisions on executing the country's oil and gas recovery program.

It will be necessary during the 11th Five-Year Plan to drill and to build up facilities for about 160 gas and condensate wells with a total penetration of more than 500,000 meters at the Shurtan, Zevardy, Kandym, Dengizkul'-Khauzak and other fields. This will enable the gas-recovery task for 1985 to be fulfilled and a backlog of accomplished work to be provided for the future.

The main amount of processing of sulfurous gas will be done at the Mubarek complex, for which purpose it is planned to expand the amount to 25 billion cubic meters of gas per year in 1985.

The question of the design and construction in the near future of the Shurtan gas-and-chemicals complex, which will include the processing of 15 billion cubic meters of gas and the extraction of 540,000 tons of ethane, 400,000 tons of propane-butane and 800,000 tons of condensate, is being converted into a practical matter.

The rate of growth in the amount of gas that has been achieved has enabled its share in the republic's fuel balance to be greatly increased. With the use of natural gas, a maximum amount of industrial output of power-engineering, chemical and petrochemical industry, metallurgical, light-industry, food-industry, building-materials industry, construction-industry, agricultural-production and municipal and domestic-amenity enterprises is now being produced.

The republic's gas customers are 1,000 industrial and about 34,000 municipal and domestic-amenity enterprises. More than 80 cities and towns, 134 rayon centers, more than 150 urban-type settlements, and 640 sovkhozes and 840 kolkhozes are using it on a wide scale.

Because of the growth in the recovery of gas and increase in its consumption, trunk gas pipelines totaling about 1,500 kilometers in length, two-thirds of them made of pipe 500 millimeters or more in diameter, must be built. Already this year the Ursat'yevskaya-Fergana gas pipeline has been put into operation, and the Syrdar'ya-Tashkentskaya GRES gas pipeline with outlets to Akhangaran and Almalyk will be put into operation next year.

Soyuzuzbekgazprom Association workers will work with persistence, imaginativeness and initiative in order to implement ahead of schedule 26th CPSU Congress decisions on developing the gas industry in the country's east.

11409
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LEVEE TO PROTECT KALAMKAS OILFIELD FROM CASPIAN SEA FINISHED

Moscow TRUD in Russian 18 Oct 81 p 1

[Article by K. Borison (Shevchenko): "The Shield at the Sea"]

> [Text] The collective of Kazneftedorstroy has completed construction of a gigantic levee, a semicircular ring of more than 30 kilometers that protects the Buzachi Peninsula, where assimilation of the Kalamkas oilfield is going on, from the Caspian.

The Buzachi Peninsula, the accelerated mastery of whose oil reserves was called for by 26th CPSU Congress decisions, has given the oil-recovery workers many difficulties. Its main deposit, Kalamkas, lies practically on the same level as the Caspian Sea, and during storms it is almost completely flooded by waves driving from the sea. And when the water recedes the infertile desert is transformed into a salt marsh, difficult of passage. Each ton of liquid fuel recovered here is produced in a struggle with the elements.

"Salt marshes do not freeze, even in winter cold," says General Director A. Dergachev of Mangyshlakneft' Association. "We even have to create special machinery and equipment for the collectives that work at Kalamkas. Here, for example, they use drill rigs mounted on railroad flatcars."

The immense levee will help to aim all the efforts of the association's subunits at building up oilfield facilities and increasing the recovery of oil. The semicircle that now encompasses the underground storeroom has become an insuperable wall in the path of the sea. The high effectiveness of the structure was proved while it was being built. This past spring the earthen embankment, faced with cobblestone, held back an onslaught of unusually high waves for many days.

The levee, which is more than 30 kilometers long and as much as 3½ meters high, cost the state 2 million rubles less than the design called for. Innovators' efforts helped the builders. Dumping should have been done from one side. The embankment in this case would have been transformed into both a construction platform and a road to the quarry. But the trust's workers dealt with it in their own way. They reduced tire pressures to the limit and removed the mufflers from the truck bodies, and the dump trucks increased their cross-country capability. The equipment went places where there were no roads. It became possible to work on several sections of the levee simultaneously.

In addition to reducing the cost of the manmade Kalamkas shield, it was possible to reduce construction time by 4 months. And this is of great importance to the collectives that are establishing the new oil-recovery region in Kazakhstan. Deprived of sustenance, the salt marshes dry up sooner. As a result, the highly productive modern drilling equipment and recovery equipment can be brought to full capacity more rapidly.

Besides protecting Kalamkas from the Caspian's waters, the levee will also have great significance for maintaining the ecological equilibrium at Buzachi. The threat of oil polluting the sea has disappeared.

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METHODS FOR BUILDING PIPELINES UNDER WATER DESCRIBED

Baku VYSHKA in Russian 16 Oct 81 p 3

[Article by V. Yeremin: "Underwater Trunk Pipelines"]

[Text] Arterial pipeline transport occupies the leading place among other means for shipping oil and gas to our customers. The network of our country's gas and oil pipelines grows increasingly each year. In so doing, some of these arterials are laid under water--along the bottoms of rivers, lakes and reservoirs. The construction of such segments is a rather labor-intensive job. And there are quite a few of them. During the 11th Five-Year Plan alone, underwater pipelines totaling as much as 600 kilometers in length are to be built. How can arterials be laid under water more rapidly and reliably and with better quality?

A large collective of scientists, designers, engineers and workers is working on the problem of reducing construction time, the development of progressive technologies and the creation of new equipment for laying underwater pipelines. Their achievements are related in a display of the thematic exhibit, "New Equipment and Technology for Erecting Underwater Arterial-Pipeline Crossings," which has been opened up in the Gas Industry pavilion of the VDNKh SSSR [Exhibition of Achievements of the USSR's Economy].

The floating method was used during erection of the Urengoy-Chelyabinsk gas pipeline, when construction was performed at a swamp less than 1½ kilometers long. It consisted of the following. Trenches for the pipeline were excavated by a single-bucket excavator working on a log base and were filled up with water. An insulating and laying column was stationed at the edge of the swamp, on solid ground. Teams added a length onto the pipe, directly in front of the column, and, after the welded joints were checked, pulled it forward with the help of a pipelayer. Since it was floating, the length was moved forward freely.

After a length had been floated and had reached the end of the marsh, it was joined to the other end into a continuous strand. Then there remained the job of immersing the pipeline and laying it in the bottom of the ditch. This was done by a 'Tyumen'" marshgoing vehicle on which erectors had installed a truck crane. The marsh vehicle with the crane moved along the ditch, and two other vehicles of the same type hauled the weights, which previously had been trucked over the haul road.

As a result of use of the described technology, which had been developed by staff workers of VNIIST [All-Union Scientific-Research Institute for the Construction of

Trunk Pipelines] and Minneftegazstroy [Ministry of Construction of Petroleum and Gas Industry Enterprises], the need to lay out log roads has disappeared and construction time for gas pipelines on water-flooded sections has been shortened.

Since 1979 the collective of VNIIST has been working jointly with Soyuzpodvodgazstroy [All-Union Trust for the Construction of Underwater Gas Pipelines] to improve the technology for digging underwater ditches by the blasting method. It includes recommendations for rational methods for drilling and blowing up rocky and heavy soils by using various types of explosives. This technology yields great economic effectiveness and it is being introduced during the construction of pipeline crossings by Soyuzpodvodgazstroy. At the same time it greatly reduces the negative effect of blasting on fish life.

In addition to large water obstacles, small rivers and streams are encountered in the path of pipelines. An industrial design institute (Orgneftegazstroy [State Institute for the Design of Oil and Gas Industry Enterprises]) is engaged in creating progressive technology and in organizing the construction of facilities across such obstacles. It recommends several methods for resolving this problem. One of them is the construction of beam-type surface crossings over small rivers that are of fisheries significance, and also over rivers that flow over heavy and rocky soils. The integrated brigades that are laying the main strand of the pipeline can build such crossings.

The introduction of this technology to erect crossings over the Yuzhnyy Bug and Kasana-Dar'ya Rivers, the Dnepr-Donbass Canal and the Ural River during the buildup of the Orenburg Gas Complex enabled the environment to be preserved, construction time to be shortened, and an economic benefit of more than 150,000 rubles to be obtained.

Various technical means that are used to lay underwater pipelines are being demonstrated at the exhibition. For example, the Profil'-1 set of instruments, which is intended for automatically recording water-body depths, the configurations of lateral cross-sections of underwater trenches and the spatial position of underwater pipelines. It was designed to be used aboard some kind of floating means. The complex includes several components that were designed for operation at ambient air temperatures between -30 and +50 degrees. The bands of depths monitored range up to 40 meters. The complex was developed by the special design bureau Proyektneftegazspetsmontazh.

A special winch has been designed for longitudinal and lateral movement of suction dredges that are excavating underwater trenches for pipeline construction. Its base is a mount that consists of a foundation and a framework, on which electric motors have been installed. The winch provides the tractive effort and speed necessary for moving the dredge.

Based on new technology, Minneftegazstroy has developed an integrated system for erecting pipelines across water obstacles. It calls for a 1½-fold increase in the construction pace, and high reliability and quality of the pipelines being erected.

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DIFFICULT MANGYSHLAK OILFIELD WORKING CONDITIONS DESCRIBED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 7 Oct 81 p 1

[Article by Yu. Kozlovskiy (Shevchenko-Mertvyy Kultuk, Mangyshlakskaya Oblast: "The Pole of Accessibility"]

[Text] "Ready to Start!"

Slowly, as if unwillingly, the enormous blades oscillate. The rumble overhead builds up. Another couple of minutes and our MI-4, an air cab for geologists and oilfield workers, rises above Shevchenko, a white town on the Caspian shore.

We are enroute to Mertvyy Kultuk. A few hours ago, at the integrated expedition Mangyshlakneftegazrazvedka [Mangyshlak Oil and Gas Exploration Expedition], chief geologist Lenin Prize Winner Valentin Petrovich Tokarev had said:

"Mangyshlak should yield a substantial part of the growth of the country's crude oil. During the 11th Five-Year Plan annual recovery should rise to more than 2 million tons. This means that progress of the work to increase explored oil and gas reserves must be accelerated. Mertvyy Kultuk, the current area of the geological explorers' search, is the bottom of a receding sea. This zone, which is located between the Buzachi Peninsula and the Prorvinskiy group of oil and gas deposits, is, meanwhile, a white spot on the geological map. The first prospecting produced good results--industrial flows of crude were obtained at six holes.

Now we are flying with Tokarev. At Karaturun drilling of a new hole has started, and the chief geologist must lose no time in viewing the first rock samples.

This man, it can be said, is legendary at Mangyshlak. Ask any of the oilfield workers about him, and he will tell how Tokarev began to work on the peninsula. A young geologist, he was charged with making a detailed survey of an expanse of 60 kilometers. He had 15 persons under him, an aged GAZ-51, and two camels that were harnessed to carts.

How many kilometers he had traveled to exhaustion under the fierce and scorching sky....How many of the first years of his work he had spent before finding oil.

...You look out the porthole. There is nothing that catches the eye. A wilderness, bare steppe, and again sand.

An hour later Tokarev bends toward me and shouts, pointing below:

"There it is, Mertvyy Kultuk."

Now the landscape is changing. An impression is gained that the ground has been sown with huge saucers. These are salt lakes. Salty swamps, covered on top by an engulfing white crust.

Another half hour and below us, from horizon to horizon, is a silvery floor. In the middle is a black candle--a drilling derrick. The MI-4 circles above it and, kicking up white salty dust, lands about 30 meters from the mobile housing of the rotating-duty settlement.

In the foreman's housing, Tokarev takes a map of Mangyshlak from the file. With a gesture he invites me to sit closer.

"While at Buzachi the productive oil horizons lie at a depth of less than 1,000 meters, or 1,500 at most, here," Valentin Petrovich outlines the contour of Mertvyy Kultuk, "the prospects for oil must be assessed down to 4,500-5,000 meters. Araldy is one of the appraisal holes. It should pass through the formation at a depth of less than 5,000 meters and give information about the cross-sectional structure for this area."

We go to the hole. We are at the machinery where driller Yuriy Shastin's team is responsible. Powerful diesels drone, the wire-rope cords shudder. The driller's glance from under his helmet is somber. One gets the impression from the people's work that all of them would willingly assist the turbodrill physically to overcome the resistance of the rocks at a depth of 4 kilometers.

When the shift ends and Shastin takes off his helmet, his weather-beaten sunburned face seems plainer and softer. Now we can speak with the driller.

"Of course," Shastin muses, "to one who is unaccustomed to living and working under such conditions, it seems impossible. Around is the desert and stuffy heat--you do not breathe freely. It is, on the whole, the subtropics, but without palms. But it does not matter, we work. Only it is complicated to set up drill rigs in these places. Some holes it takes months to put down. We enclose the platform with a 3-meter embankment, we tamp it with tractors, and we pack it, and we pump the water out from inside. You look at it and it has been dried out. We bring in the drill rigs, but the water again is ankle deep--no one knows where on earth it came from...."

"But nevertheless, drill rigs were set up in Mertvyy Kultuk?"

"Only on a previously prepared foundation. We 'plant' as many as 10 piles to a depth of 30 meters, and we concrete them. Under each derrick support, the diesel unit, the pipe setbacks and the pumps--footings are needed everywhere. But it is even more difficult at Karaturun...."

We fly to Karaturun. On landing, one thinks: something is exceedingly soft under the chassis. Will we be able to take off?

Tokarev looks pensively at my shoes.

"Yes, comrade journalist, we forgot about swamp boots. We will have to get to the drill rig barefooted."

The first step from the helicopter and our feet go knee deep into the viscous, squelching clay.

"This is nothing," laughs Tokarev, "farther on it is even deeper."

We slog on. And we had arrived, it appeared, in time: they were getting ready to start drilling. Multiton kellys with swivels await their turn on the receiving floor, on the racks is casing with equipped stems.

Everything is ready. One could lift the kelly, then only joining this massive pipe of square cross-section with the swivel would be needed.

Another hour, and another--and the diesels started up vigorously with a roar, the tamed kelly rocks on the block and tackle, and Ibragim Izimbergenov's shift will begin drilling. But for now, the drillers relieved of duty invite us to the quarters--the best equipped mobile housing; they display pennants, won twice by the brigade in the All-Union oilfield workers' socialist competition, they are interested in what impression Mertvyy Kultuk has created on me, and they tell me about work on the drill rig.

Of course, the drillers say, it is difficult. There are enough problems. How, for example, can one drive a powerful KrAZ to the drill rig if even a tracked vehicle can get stuck in this morass? Six tractors drag just one unit here. And when a drill rig had to be hauled 2 kilometers, 2 months were spent on it.

In these people's minds, difficulty means, above all, the necessity to act. Sand grinds their teeth, there is no place to hide from the intolerable heat, and they work in water up to their waist, but they keep going for oil.

Such oil and gas fields as the Vostochnyy Zhetybay, the Yuzhnyy Zhetybay, the Karamandybas, the Asar and the Tenge were discovered at Mangyshlak in a short time. During the 10th Five-Year Plan alone 1,400 oil and gas wells were put into operation at Mangyshlak.

Mangyshlak is a peninsula of riddles, and it even makes old oilfield workers feel young.

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SUGGESTIONS PROGRAM NEGLECTED IN UKRAINE'S COAL MINES

Kiev RABOCHAYA GAZETA in Russian 30 Sep 81 p 2

[Article by I. Naumenko (Donetskaya Oblast): "Let the Yield Be Meaningful"]

[Text] • Let us begin a public inventory of inventions and rationalizers' suggestions that have been accepted but not used in the national economy.

• We invite production innovators, trade-union and Komsomol activists and our newspaper's readers to participate in taking the inventory.

• Today the UkSSR Ministry of Coal Industry is being monitored.

On 26 August our newspaper told about a meeting of distinguished rationalizers of the republic at a "round table" that was organized by RABOCHAYA GAZETA, Ukrsovprof [Ukrainian Council of Trade Unions] and UkSSR Gosteleradio [State Committee for Television and Radio Broadcasting].

The talk participants told about what needs to be done to increase the results of invention and rationalizing activity, how to give a ticket to life to technical innovations that already exist but are still filed away, and how to improve organization of the creative process in working collectives.

The Ukrsovprof Presidium adopted a special decree. It calls in particular for the conduct, beginning in September, of a public inventorying of inventions and rationalizers' suggestions that have been accepted but not introduced. The editorial board of RABOCHAYA GAZETA has taken this important campaign under its monitorship.

More than a month has passed since the decree was adopted. However, certain ministries and agencies, but UkSSR Minugleprom [Ministry of Coal Industry] in particular, are prolonging the time taken to make the inventory. Yet in that industry the situation with respect to realizing inventions and rationalizers' suggestions is far from favorable.

Lying in the yard of the Shakhterskoye Underground Mine Administration, in mute reproach to poor management, is a moiling combine, which is not on the products list of even one coal-machinebuilding plant. Local experts and rationalizers put it together. This unit is not only desirable but simply necessary to miners. To those on whose shoulders lie responsibility for upkeep of the main mine drifts--the hauling and ventilation passages--in working condition. Particularly at underground mines where coal and the rock from tunneling and from breakage-face work are hauled away by mine cars on rails.

It is a fact that mine pressure is propagated in all directions. It presses on the mine working from above, from the sides and from below. But while an arch support sustains the pressure from the roof and the side rocks, the pressure on the soil is not supported by anything. The bottom bulges and disturbs the track, and the movement of cars along the passage becomes impossible.

Leveling the bottom and the track is a labor-intensive operation performed manually. The main tool here today is the pneumatic drill and spade. As they say--you take more, you throw farther. If you examine the repair orders of the workers, let's say, for a year, then it is easy to be convinced that a good third of them are made up of orders for moiling.

And so the combine that we are talking about completely mechanizes this process. Gashing the bottom, it levels the track. The machine was tested on the surface, and people were convinced of its efficiency, but they have not started it up in the mine.

"A moiling combine--how badly we need it!" and V. I. Gorban', chief engineer of the Shakhterskoye Underground Mine Administration, passes his palm edgewise along his throat. "And we are obliged to introduce it. Of course, it is bad that the machine has been standing idle for 4 months. But which months? Summer is the time for vacations. But there are not enough people at the mine anyway, and we still are not carrying out the plan. So who will agree to give even one person to introduce a new machine under such conditions? We assigned people to assemble and test the combine on the surface in the winter. And that was with the help of the party organization. But right now....You want a trial?"

The chief engineer's hand reached out toward a switch. The chiefs took the request to assign a person to introduce the moiling combine as an uncalled-for joke. Everyone agreed, of course, that the machine is needed underground, but the plan, the plan....In short, outwardly a situation has been created that has become classic, it has been used to good advantage more than once by satirists--clearly there are retrogressives and progressives.

And, probably, the story of the moiling combine would be completely within the framework of this formula had there not been one important circumstance. Not only at the Shakhterskoye Underground Mine Administration but also at any other mine of the Shakhterskantratsit Association, neither one nor two examples can be found where a meaningful rationalizer's suggestion that required definite material and labor expenditure had been introduced, at best for months, if not for years. In the worst case, it is never realized.

Mine foreman N. I. Gul'chuk, for instance, designed last year an original drill that is needed very much by tunnelers who open up coal seams by the blasthole-drilling method. One of these tools alone, according to the most modest estimates, will deliver an economic benefit of 14,000 rubles. But still only one copy is in operation, and that one was made by the rationalizer himself.

Matters go not much better with the realization of rationalizers' suggestions in some of the other associations. This year at the hydraulic Pioneer Underground Mine at Dobropol'ye, 52 out of 74 adopted suggestions were introduced. At the Sovetskaya Underground Mine of the Sovetskugol' Association 137 out of 171 accepted were introduced, and at the Donetsk Underground Mine imeni Chelyuskintsev the figures were 76 out of 97. And now for a generalizing figure: in 6 months of 1981, in all, 82.5 percent of the suggestions adopted at UkSSR Minuglepromeenterprises had been introduced.

But even this figure does not reflect the true state of affairs. At many mines a tradition has existed of officially registering only those suggestions that the rationalizers have already introduced, that is, the simpler ones that do not require considerable expenditures. And, conversely, the more effective and meaningful technical innovations, as we have already seen, are not implemented. You will agree that such a state of affairs is explicable only by the banal conservatism of various supervisors, which is dictated by current production interests, or, at any rate, they are not serious. It is evident that, in order to realize the meaningful rationalizers' suggestions, the appropriate conditions are necessary.

"That's absolutely true!" agreed A. F. Ostapenko, chief of the Engineering Administration of UkSSR Minugleprom, who has jurisdiction of the service for promoting the rationalizers' movement. "Today," he developed his thought, "each supervisor understands that rationalization is a most important reserve for increasing the mining of coal and for saving labor and material resources. In order to create more favorable conditions for the rationalizers' activity, Order No 204, which called for the organization at coal-mining enterprises of specialized brigades for introducing inventions and rationalizers' suggestions, was issued throughout the ministry in August 1978. Where these brigades have been established, the problem of realizing engineering innovations has been solved."

A. F. Ostapenko is absolutely right. However, today the specialized brigades are working at just a few mines. At an absolute majority of the mines, these brigades are known about only by hearsay. And this is completely explicable. In order to implement any order, even the most reasonable one, the corresponding material base is necessary. What use is it, let's say, to order artillerymen to destroy a target if you know positively that they do not have any shells?

The managers of most underground mines that received Order No 204 proved to be, in essence, in the position of the artillerymen without shells. For, if the introducing brigades are to bear a tangible benefit, they should be provided with the appropriate base: tools, machine tools and space, of course. And what kind of a base can the Shakhterskoye Underground Mine Administration talk about if the whole electromechanical service here has at its disposal two machine tools--a drill and a lathe--and even these are, so to speak, antediluvian.

And, for that matter, individual underground mines or mine administrations. An enterprise with a fairly solid name--the machinery repair plant of the Shakhterskantratsit production association--is not in a position to fabricate the drill designed by N. I. Gul'chuk because of the lack of the simplest machine tool for drilling holes at various angles.

The mechanical base of Torezantratsit, Selidovugol', Ordzhonikidzeugol' and Dzerzhinskugol' Associations and other associations are in the same predicament.

Not having a base for organizing the brigades that specialize in introductions, the mine managers, in order to implement rationalizers' suggestions, are forced to establish temporary collectives, taking personnel away from the main job. Well, and the temporary brigades--they are still temporary. Today they work, tomorrow they don't. Thus it is that the periods for introducing suggestions that require substantial expenditures are prolonged, as happened with the moiling combine in the Shakhterskoye Underground Mine Administration. The words of the famous Donbass [Donets Coal Basin] innovator, M. K. Goloborodov, brigade leader of mine-timbering workers, are recalled involuntarily.

"When one has planned to introduce an innovation," Mikhail Kirillovich confided to a pained one, "the rationalizer is taking up a thorny path. He has to work, so to speak, on personal charm. You go to lads you know at a neighboring enterprise and ask: one--to drill a hole, another--to machine a part on a lathe, a third--to make a mold. Clearly, under such circumstances not everyone has the patience to last from beginning to end...."

At the Engineering Administration they pointed out to me, not without pride, an item of information. Five pages of typescript set forth experience in organizing specialized departments and brigades for introducing inventions and rationalizers' suggestions at mines of the Donetskugol' production administration. The authors' information bared, painstakingly, what advantages had been obtained: the level of mechanization of basic and auxiliary operations had been raised at Donetsk underground coal mines.

What caught my eye in the information was a paragraph that explained how the Donetsk miners had managed to acquire equipment for the specialized departments, in order to create a base for successful operation of the introductions brigades. Through machine tools that had been written off by large machinebuilding enterprises of Donetsk, it turns out. This is, it goes without saying, good. It undoubtedly is good that the machinebuilders came to the assistance of their fellowmen from the same district, the Donetsk coal miners. Well, but what are the miners to do in those cities where there are not only no large machinebuilding plants, but not even small ones? What about the miners of Shakhtersk, Selidovo, Dobropol' and Yenakiyevo? It would be naive to suppose that, in issuing Order No 204, the ministry had counted on writeoffs in other branches of industry. But neither did the Engineering Administration have precise and consistent programs--let alone a long-term one!--for providing coal-mining enterprises with the equipment needed for the work of the introduction brigades.

Even if, in the foreseeable future, specialized departments and brigades similar to those that have appeared in the Donetskugol' Association should appear at literally each underground mine, the problem of realizing rationalizers' suggestions at Minugleprom enterprises nevertheless still will not have been solved. We refer to technical innovations that are not of local but of industrywide importance. The work experience of the Donetskers shows eloquently that the existing specialized departments and brigades are capable of introducing some innovation or other in their own enterprise, and no more. Thus, at the Lidiyevka Underground Mine rationalizers created a tipper with a mechanized car cleaner that could successfully operate also at other mines. Rationalizers of the Underground Mine imeni Gazeta

SOTSIALISTICHESKIY DONBASS are justly proud of the monorail with loading and unloading arrangements; and the Butovka-Donetskaya Underground Mine--of reliable conjugate supports for longwalls with drifts, and so on.

All these rationalizer suggestions, as well as those mentioned above, are of industrywide significance. And the republic's ministry itself should be engaged in putting them into operation. Technical innovations of this class should be manufactured serially at coal-machinebuilding plants, as called for by the appropriate statute developed by USSR Minugleprom.

And here is a curious fact. In recent years, our republic's ministry has not paid any monetary award for a rationalizer's suggestion of industrywide significance. In other words, the ministry has not monitored a single suggestion. As we have already become convinced, it is by no means because of a lack of them.

In this connection, I would like to tell briefly the story of a most valuable suggestion. Miners with seniority recall well with what torment the hydraulic mechanized supports of the KM-87 type were introduced at longwalls with weak, unstable water-flooded soils. The sections of the support simply were drowned in the diluted bottom. As a rule, attemps to introduce the complex at water-flooded longwalls ended unsuccessfully. And suddenly the information spread among the miners: at the Rossiya Underground Mine in Selidovo a KM-87 longwall miner was working stably at a water-flooded mine face. It provided this detail, that the area supporting the section had been doubled. It received the prosaic appellation "koryto" [pan]. But the essence of it was not in the name but in the fact that right now the Selidovo "pan" is being used not only in the Ukraine but also in Vorkuta and in the Far East--everywhere that coal is being mined by the KM-87 longwall miner. And everywhere, as before, the "pan" is being fabricated in-house, homemade. Not everywhere is it being introduced successfully. Then delegations arrive at the Rossiya mine for experience....Who has counted up how much state money is being spent for such trips? But the matter here is not these expenditures: in the final analysis they are being recouped. The fact is that the rationalizer's suggestion of the Selidovo miners has become an industrywide suggestion in practice, but not juridically. Let us add that it cannot become one under the UkSSR Minugleprom system for examining and rating rationalizers' suggestions that is now in existence.

Although such an individual as a rationalization engineer is called for by the staff manning schedule of the management apparatus of mines and mine administrations, it is useless to search for a person occupying this post at coal enterprises. This is explained fairly simply. According to a regulation approved by UkSSR Minugleprom, it is forbidden to award bonuses to a rationalization engineer for either introducing new equipment (?!) or for saving labor and material resources--in short, precisely for the work for which he is responsible at the mine. But, on the other hand, the engineers of the technical divisions receive such bonuses. Therefore, as a rule, they also are engaged in rationalization at the mine. But, so to speak, by combining it with their basic obligations. The benefits, from this combining of jobs, naturally, are few.

What is more, the staff organization schedule for associations calls for sectors for rationalization within the staff...one engineer. Well, is it within the capabilities of one man, be he even a Solomon, to process a stream of rationalizers' suggestions that come from the 20-30 enterprises that make up the association at which he works, from 20,000 to 60,000 men! Yet every plant, every factory at which 3,000 or more workers toil has its own BRIZ [Office for Rationalization and Invention].

The public institutes of VOIR [All-Union Society of Inventors and Rationalizers] could, it goes without saying, make up for the flaws of the staff manning documents. Let's say, groups of public experts who have been designated from among leading specialists. They could, both at the mines and at the associations, test arriving rationalizers' suggestions for newness and usefulness and select from among them those that have industrywide importance and send them to the ministry for review. But an institute of public experts at Minugleprom enterprises is lacking. Anyhow, as with many other forms of public activity of VOIR members, it has proved itself well in the chemical and machinebuilding industries and in other branches of the national economy. How can one disagree with M. K. Goloborodov, who spoke about the thorny paths that miner-rationalizers encounter!

In recent years the qualitative composition of coal-industry workers has changed radically. Thousands of specialists with secondary technical and even with higher engineering education are working at work places at breakage and tunneling faces and at other sections. Here is a high creative potential for modern miners. This is explained by the ever-growing stream of most valuable suggestions for the technical improvement of coal mining. And, of course, it is already time that UkSSR Minugleprom so constructs the work with rationalizers that each worthwhile suggestion will bring maximum possible benefit.

11409
CSO: 1822/19

BRIQUETTING, NEGLECTED FOR YEARS, MUST BE REINSTITUTED

Moscow PRAVDA in Russian 7 Oct 81 p 2

[Article by A. Batygin and B. Ravich, candidate of engineering sciences: "They Forgot About the Briquette"]

> [Text] The world's reserves of coking-grade coal, which are being used widely in metallurgy, are become more depleted each year. How to cover the deficit? This question was posed in an article, "The Briquette Promises an Advantage," which was published in PRAVDA more than a year ago, on 5 June 1980. And the publication gave an answer: coking coal can be partially replaced with success by the shaping (briquetting) of coke. Experience has shown that this will enable the share of noncoking coal in the ordinary coking charge to be increased to 30-40 percent.

The briquetting process thus is of great national economic importance in preparing various metallurgical raw materials. For example, studies conducted by a number of institutes, including the Moscow Mining Institute, have established that for certain processes for obtaining iron directly, for preparing ferrous-alloy charges, and for utilizing hydrocarbon-containing and metallurgical wastes, peat or combinations thereof with grades of coal that are not in short supply can be used. The briquetting process, it was noted in the above-mentioned article thus can and should find application in preparing ore for a number of steelmaking and ferrous-alloy production operations, in various processes for obtaining iron directly, and in the utilization of various industrial wastes.

However, despite the undoubted economic advantages that the introduction of briquetting on a large scale can bring, unfortunately even to this day actually nothing has been done to introduce research results in domestic metallurgical practice. Moreover, the industrial installations that could serve as a test base for experimental and industrial-test operations have been eliminated: the Krivoy Rog Briquette Factory, the Gubkin Testing Installation and a department at the Kommunar Metallurgical Plant have been closed.

It has been more than 20 years now since the country has graduated engineers for briquetting ore and coal. There are not even specialized laboratories of broad profile for briquetting. And scientific-research institutes are not engaged very much with this problem, there are none of the appropriate design organizations, and plants for manufacturing modern highly productive equipment have not been set aside for this purpose. For indeed, the interests of briquetting specialists are not restricted to metallurgy.

The article, "The Briquette Promises Advantage," stimulated an interested response from readers. "We consider," writes department head Professor V. Naumovich and lecturer O. Tseplyayev of the Kalinin Polytechnical Institute, "that in order to solve the problem it is necessary to create not a branch-of-industry scientific-research and design-development organization but one of interindustry status, which would specialize in the area of compacting hard, dispersed materials. It should at first have at least a testing plant. Plans of the USSR Ministry of Higher and Specialized Secondary Education must also call for the training of engineers associated with the briquetting of various materials."

"If one takes a look at the curriculum for the specialty (Beneficiation of Useful Minerals)," M. Bulynko, department head of the Moscow Technological Institute, continues the thought, "then it turns out that no attention at all is being paid there to a study of briquetting technology." It is necessary to eliminate quickly the lag in graduating specialists and to create laboratories of broad profile and test bases, also notes USSR State Prize winner and Doctor of Engineering Sciences Professor B. Losev.

Doctor of Economic Sciences Professor I. Krapchin expresses the thought that "the use of briquettes in metallurgy and the byproduct-coke industry will be accompanied by increased production effectiveness, and practical solution of the problem posed should be started by including it in the plan of the USSR State Committee for Science and Technology and the appropriate ministries." The author confirms the recommendations to arrange for the graduation of specialists, to create design bureaus, and so on.

"Briquetting, converting fine-grained materials into 'lumps,' turns them into a full-fledged form of raw material," remarks V. Okladnikov, department head of the Irkutsk Institute of the National Economy. "As a result, industry can increase its raw-materials base by many millions of tons. The job consists in putting briquetting on an industrial basis." Similar recommendations came from Doctors of Engineering Sciences N. Lavrov, M. Menkovsky and L. Khotuntsev, Candidate of Engineering Sciences V. Vasil'yev, and others.

The newspaper's article has been examined by the USSR State Committee for Science and Technology. In its opinion, Minchermet [Ministry of Ferrous Metallurgy] must intensify work in the area of preparing raw materials for smelting, including study of the briquetting of ores.

Well, and what about the USSR Ministry of Ferrous Metallurgy, to whom the main critical remarks were addressed? Deputy Chief of the Engineering Administration Yu. Kuznetsov, in essence only verified long-known facts. For purposes of improving briquetting processes, he complains, there are no trained personnel or specialized research and design organizations, and the equipment is not being produced.

Just who is guilty here, if not primarily the ministry itself? In answer, Minchermet states that in order to prepare for blast-furnace smelting, the processes of pelletizing is widely used. But indeed, did the publication pose the question of using briquettes in blast furnaces? Moreover, elimination of the test installation at Gubkin and the department at the Kommunar Metallurgical Plant, according to the statement of Yu. Kuznetsov, is explained by the fact that in order to prepare iron-ore raw materials "sintering and pelletizing are more effective." In this case, why expend substantial state funds on the creation of such installations? Indeed, they were not used even for experimental industrial testing.

Minchermet's report talks only about blast-furnace and ferrous-alloy raw materials, without even mentioning the preparation of raw materials for steelmaking processes, the utilization of ore waste and of metallized fines, and expansion of the raw-materials base for coking. For indeed it is in these processes, including the preparation of ferrous-alloy raw materials, that briquetting is (which experience proves) completely competitive.

USSR First Deputy Minister of Higher and Secondary Specialized Education N. Krasnov explained the causes of the curtailment of the training of briquetting engineers this way: he says it is undesirable to train only briquettemakers, for this is included in the program of training personnel for the 0204 specialty (Beneficiation of Useful Minerals). However, the whole point is that it has been more than 5 years now that the course in briquetting has been excluded entirely from the curriculum.

With the necessary requirement of branch-of-industry ministries for briquetting engineers, N. Krasnov confirms, the ministry can give instructions to the institutes that are training in the 0204 specialty to specialize some of the graduates.... Need it be proven that such "instructions" have been delayed now for many years? For more than two decades briquetting engineers have not been graduated. Consequently, where to get instructors for specializing? Especially since the old personnel of this specialty have now been scattered among many NII's [scientific-research institutes].

Upon the recommendation of specialists, it is necessary to organize a center which will coordinate and supervise work in the briquetting field. In order to develop and manufacture briquetting equipment (presses, heating installations and other equipment) it is necessary to create a specialized design-development organization and to designate a plant to manufacture it. It is necessary to correct the mistake--to arrange for the graduating of briquetting specialists and to begin experimental metallurgical smeltings and the design and modernization of presses.

As we see, the majority of the questions posed in the newspaper's article remain open to this day. A genuinely state matter, which briquetting is, needs the constructive assistance of all interested ministries and agencies.

11409
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FUELS

OFFICIAL DESCRIBES ESTONIA'S READINESS FOR HEATING SEASON

Tallinn SOVETSKAYA ESTONIA in Russian 24 Sep 81 p 1

[Interview with Estonian SSR Deputy Minister of Housing and Municipal Services Aarne Aleksandrovich Saar by T. Sidorenkova: "Heat for Every Home"; date and place of interview not given]

> [Text] Each day readers call on the telephone and write to the editorial board. Here are lines from a recent letter "It is already cold in the street, and it rains often. But at home and at work it is damp and uncomfortable. I would like heat. And although it has already been explained that the heating season began 17 September, the radiators are not warm in every house. Is it not incomprehensible that this occurs?"
>
> We brought this letter to Deputy Minister of Housing and Municipal Services Aarne Aleksandrovich Saar.

[Question] General readiness for the current heating season, Aarne Aleksandrovich, was actually set for 17 September. Its official date has started?

[Answer] It is official but, nevertheless, arbitrary. The fact is that, under existing rules, the final date of the start of the heating season is established in the republic by decisions of the city and rayon ispolkoms. In so doing, it goes without saying, weather conditions are considered. Whether it rains for a long time, and what the average daily temperature is. If it is uniformly 8 degrees for 3 days in a row, it is time for the radiators to be warm. Naturally, there is still another important factor: whether the heating lines, the boilerhouse and the hot-water heater premises of your housing are ready by the given date. And this, of course, has its own problems.

[Question] Could you not tell us in more detail about them and about those measures that precede the heating season?

[Answer] Preparation for winter begins in good time, back in summer. It is done in integrated fashion, in accordance with plans that are a component part of the programs for the social and economic development of the republic's cities and settlements. Industrial enterprises and agencies, social organs and the population are involved in fulfilling the contemplated measures. Also, a staff that coordinates and monitors the work of preparing for the heating season has been established under the Estonian SSR Ministry of Housing and Municipal Services.

I would like to tell about certain changes that have occurred during the year. Last fall I gave an interview with your newspaper. Then I named this figure--200. This was the length of the heating lines that are within our jurisdiction. During this time it has changed, having been increased by 80 kilometers.

The elimination of small boilerhouses also continues. During the year their number will be reduced by 16. In all, during the five-year plan it is planned to eliminate 90 small boilerhouses. Mainly in Tallinn, Tartu and Valga.

As is known, only well-laid heating lines provide for the uninterrupted delivery of heat.

As of the 1st of September, the internal system of the buildings that are heated by their own boilerrooms were 93 percent in order. Matters were worse with buildings heated by Estonglavenergo [Main Administration for Power-Engineering of the Estonian SSR]. At the moment, the situation has changed for the better. A fuel reserve of 2 months has been provided for in the boilerhouses.

It must be said that, despite all the measures that have been taken, preparation for the heating season has not been conducted systematically at all facilities. Out of 272 boilerhouses in the republic, on 8 September 15 still were not ready for operation and 40 of them were being repaired. Some examples. In Keyla the central boilerhouse is being rebuilt. The work that is being done by the republic's Estkolkhozstroy [Estonian Kolkhoz Construction Association] has not been completed as of today. Almost the same difficult situation exists in one of the housing rayons of Pyarnu and in Vil'yandi, Tapa and Valga. In the others, the prime contractors have promised to do everything necessary to provide heat for apartment houses, kindergartens, schools and institutions prior to the cold weather. Precise mutual actions by all organizations doing this work are required in the situation that has been created.

In Tallinn repair continues on the heating grids on Kangru, Chaykovskiy and Mayakovskiy streets. This is a fairly old section. When the heating lines were opened up here, it turned out that they had to be almost completely replaced. The amount of work is fairly great, but the builders are doing crash work, and in a couple of days there will be heat here. In Tartu, where Estkommunteploenergo [Association for Municipal, Heating and Power Services of the Estonian SSR] services many boilerhouses of the Ministry of Public Health and the Estonian SSR Ministry of Education in accordance with agreements, the owners themselves have not repaired the boilerhouses and have not transferred the necessary equipment for repair by the servicing organizations.

Great work by Estkommunteploenergo on reequipping boilerhouses for the effective use of fine coal fractions must be noted.

I dwelt also on the problem of personnel. Last year we had a fairly difficult situation with the stokers. Right now the picture is a little bit better. The provisional requirement (on the coldest days) is 1,172 persons. On 1 September there were 668, plus 108 "moonlighters." There were also understandings about work with

240 stokers. There are 7 percent more this year than last, and the staff of equipment operators is completely manned.

A certain portion of the republic's population resides either in their own homes or in wooden houses where there is furnace heat. And here there are no few problems.

There has been a great shortage of furnacemen in the republic. A group for training young workers for this trade has been opened up in Vocational and Technical School No 19. Already 30 people have been trained. This year the GPTU's [city vocational and technical schools] turned out another 30 furnacemen. In a couple of years the situation will be improved.

[Question] Incidentally, Aarne Aleksandrovich, those housing premises where people heat their own homes has been mentioned. How are things going with their supply of fuel?

[Answer] Each resident can obtain fuel from fuel bases, where it is issued to them in accordance with the amount of space occupied.

Because of the fairly lengthy rainy period the number of briquettes procured is still fairly small. However, there are more at the fuel bases now than there were last year, and there are firewood and coal.

As of the start of September 67,000 tons of firewood, 42,000 tons of coal and 121,000 tons of briquettes had been sold to the populace. Last year these figures were: firewood--60,000 tons, coal--39,000 tons, and briquettes--144,000 tons. All measures are being taken to supply the populace fully with fuel.

[Question] And a last question. Concerned householders are, of course, readying their homes for the cold of the fall. They are puttying windows and lining doors. I would like to find out how, in your view, each of us can help in this great work of preparing for the winter?

[Answer] Such help, incidentally, is very much needed. Windows should be puttied and doors lined in good time, for an apartment not prepared for winter loses about 15 percent of its heat. But it is also necessary to be concerned about whether windows and doors at entrances are tight and repaired. And that cellars and attics are reliably insulated. Everywhere, housing administrations need resident helpers who come with the question: "Tell me, what can I do?" There are such people. In their free time they are concerned not only about their apartment but also about the building they live in. They repair doors, windows, attics and basements. I would like to thank such enthusiasts, people who are deeply motivated, for their concern for the building.

11409
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BRIEFS

ALTAY COKE BATTERY--Zarinsk, 11 Sep--The concluding stage of prestartup operations has begun at the Altay Byproduct-Coke Plant: the first coke battery has been placed on warm-up. Specialists have arrived for checking and adjustment of its equipment and instruments. In accordance with the technology, the battery will be warmed for 90 days. After that, charging of the furnaces will commence and then metallurgical enterprises will receive coke. The battery's capacity is 1 million tons of product per year. The main operations for its output will be completely mechanized and automated. The collective of the enterprise, having eliminated the lag that had previously been permitted, has now concentrated efforts on the main facilities. Much time was saved by the installers, who mastered the assembly on the ground of consolidated modules that weighed up to 30 tons, and then, later, the installation of them at a higher level. The boiler unit for the Zarinskaya TETs--the "heart" of the plant, which was made in Barnaul--was designed to use secondary resources. The builders' collective here is impatiently waiting for the command, "Start!" Soon byproduct-coke chemicals will arrive at enterprise departments. Hundreds of young men and women have already mastered a specialty at the country's similar enterprises. [TASS] [Text] [Moscow PRAVDA in Russian 12 Sep 81 p 1] 11409

COAL MINE'S LIFE EXTENDED--The Ukraine--Despite the fact that industrial fuel reserves at Novovolynskaya No 1, the oldest underground mine in the L'vov-Volyn Coal Basin, are exhausted, the decision to close it has been set aside for 10 years. The miners have undertaken development of a western section of the field that is located outside the underground-mine field. In order to do this they had to extend the existing mine workings, increase their cross-section, and lay a new ventilation shaft almost a half a kilometer deep. A collective of Underground Mine Novovolynskaya No 4 found the remaining part of the field, where coal reserves comprise almost 10 million tons. Here preparations have begun for the excavation of the new seams. This maneuvering of forces precludes the necessity for building a new coal-mining enterprise. Its erection would have cost 70 million rubles, while the reconstruction costs were one-fifteenth of that amount. [Text] [Moscow IZVESTIYA in Russian 13 Sep 81 p 1] 11409

EKIBASTUZ COAL-MINING COMPETITION--Socialist competition for the honorary right to mine the 600-millionth ton of steam coal since the start of the field's operation is being promoted increasingly widely in the Ekibastuzugol' production association. More than 80 excavator, drilling, locomotive and other brigades are operating in a regime of high productivity. At the Bogatyr' Strip Mine, A. Shishlov's and R. Fetser's brigades, which are serving rotary mining complexes with a productivity of 5,000 tons per hour, are driving to mine 10 million tons of coal annually with each machine. In participating in the competition, V. Sakharov's rotary excavator brigade of this strip mine has loaded 330,000 tons of fuel above plan in half a year. At the neighboring Tsentral'nyy mine, the above-plan coal credited to the brigades of V. Neupokeyev and P. Vovkodav is growing. The brigade form for organizing work is being propagated among the association's transport workers. All members of the start-to-finish specialized brigade are working on one order. Bonuses are now being awarded as a function of fulfillment of the appropriate indicators for each locomotive and not, as before, by railroad yard. This has enabled the elimination of lack of personal responsibility in the material incentives for workers. Mine transport equipment has begun to be used better. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 36, Sep 81 p 9] 11409

EXPERIMENTAL COAL CUTTER-LOADER--Donetsk--For the first time in world experience, a deep underground-mine shaft has been made by means of a cutter-loader. At the Underground Mine imeni Kalinin a unit managed to go a depth of 1,100 meters. The experimental SK-1 shaft-driving complex was created by designers of TsNIIpodzemmash [Central Scientific-Research and Design-Development Institute for Drifting Machines for the Coal and Mining Industries and for Underground Construction] and manufactured at Uralmashzavod [Urals Machinebuilding Plant]. "The new machine," said chief engineer of Donetskshakhtoprokhodka [Donetsk Underground-Mine Tunneling Trust] Ye. Novak, "can sink 100 or more meters of shaft. In so doing, all operations at the mine face are completely mechanized--drifting, reinforcing with concrete, and pipeline splicing. Labor productivity is increased 4-fold and safety is fully guaranteed." It is planned to produce a first test series of five combines during this five-year plan. [Yu. Rybalov, mining engineer] [Text] [Moscow TRUD in Russian 8 Sep 81 p 1] 11409

COAL MINE GOES DEEPER--Rostovskaya Oblast--The Yuzhnaya Underground Mine of the Rostovugol' production association has acquired a second youth. A new coal-mining complex has gone into operation here. Having exhausted coal reserves, the miners, after reconstruction, transferred to a greater depth of the horizon. The new longwalls are equipped with modern mining equipment: scraper installations teamed with mechanized supports. Since reconstruction, the mine has been giving 5,000 tons of anthracite daily. The brigades of Hero of Socialist Labor O. Gatsenko and A. Belov and the collective under N. Fomin have brought daily output per longwall up to 1,000 tons or more. The coal reserves at the new horizon depth are 30 million tons. [V. Fomin] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 15 Sep 81 p 1] 11409

CEMA COAL-MINING MEETING--Problems of strip-mining coal are the center of attention of participants of the 37th Session of the Scientific-Council No 2 of the CEMA Standing Commission on Collaboration in the Coal Industry, which opened 22 September in Angren, Central Asia's largest coal-digging center. Prominent specialists and managers of the industry from Bulgaria, Hungary, the German Democratic Republic, Poland, Romania, the USSR and Czechoslovakia participated in the session's work. The meeting's participants are examining the results of a joint study in the area of mining coal by the strip method and are exchanging advanced experience. It is planned to discuss prospects for the wide introduction of progressive technology of the mine-survey service for open-cut mining operations with the use of a computer. On the program during the stay of the visitors from the fraternal countries are a visit to the Angrenskiy Strip Mine and acquaintance with the sights of Tashkent and Samarkand. [UzTAG [Uzbek SSR Telegraph Agency]] [Text] [Tashkent PRAVDA VOSTOKA in Russian 23 Sep 81 p 1] 11409

WESTERN DONBASS COAL MINE--Pavlodar--Miners are successfully working thin seams of the western Donbass [Donets Coal Basin]. At the Dneprovskaya Underground Mine of the Pavlogradugol' production association, the 1-millionth ton of fuel has been mined. The brigade under B. Sobolevskiy sent it to the top. New equipment created by the republic's scientists and machinebuilders helped the miners to carry out the commitment that had been adopted in honor of Miners' Day. It will help not only to increase the mining of fuel under complicated mine-geology conditions but also to speed up its delivery from the mine faces to the shafts. The oblast's miners have proposed to increase the amount of mining 1.4-fold during this five-year plan. This will enable the Dnieper region's metallurgical workers' coal requirements to be satisfied more completely. [TASS] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 28 Aug 81 p 1] 11409

PETROLEUM SUPPLY AGENCY FORMED--The Presidium USSR Supreme Soviet has formed a union-republic USSR State Committee on Supply of Petroleum Products. [Text] [Moscow PRAVDA in Russian 30 Jun 81 p 2] 5303

COAL QUALITY PRAISED--Voroshilovgrad-3 August. Still another form of production has been awarded the State Emblem of Quality at the "Komendantovskaya" coal-enrichment plant, the largest in the country. Now the enterprise will annually send to users more than 2 million tons of high-quality enriched anthracite. A complex quality control system has been introduced for the first time in the coal industry at the Sukhodol'skaya plant. Its economic effect will be more than a million rubles annually. Coal enrichers are achieving such successes as a result of close collaboration between production personnel and scientists of the Ukrainian Scientific Research Institute of Coal Enrichment. [By P. Mazalov, special PRAVDA correspondent] [Text] [Moscow PRAVDA in Russian 4 Aug 81 p 2] 5303

NEW DRIFTING METHOD--The scientists and specialists of the Institute of Problems of Deep Petroleum and Gas Deposits, Academy of Sciences, Azerbaijan SSR, are proposing a new method for the driving of drifts under complex geological engineering conditions (quicksand). The use of known methods is difficult, depending on geological conditions. It is not possible to reduce the water head to the necessary level. In order to ensure a reduction in water head it is necessary to drill a large number of boreholes and this is not effective in technical-economic respects. In the new method this shortcoming has been effectively eliminated because the drilling of boreholes occurs prior to the beginning of driving of the drift from the surface. Water charged with polymers is pumped into the boreholes in the outer ring and water is constantly pumped from the boreholes in the inner ring. As a result, there is a decrease in pressure in the caisson and a decrease in the water head in the zone where the drift is being driven. [Text] [Baku VYSHKA in Russian 1 Aug 81 p 3] 5303

GIANT EXCAVATORS PRODUCED--The accelerated exploitation of coal deposits in Siberia and Kazakhstan is being ensured by rotary continuous-action complexes whose production has been mastered in the Donbass. At the "Zhdanovtyazhmash" Combine work has been completed on the loading of the first consignment of equipment for the main apparatus for the miners of the Kansk-Achinsk Basin. The steel giant will handle 15.5 million tons of coal annually. The creators of the excavator studied the specifics of its operation under the severe natural conditions of the area. All the supporting components are made from a specially durable steel which withstands cold of -40°C. Only five men are needed for automatic control of the apparatus. The Zhdanov machine builders have obligated themselves this year to construct and send to Siberia a new excavator consisting of several dozen machines and mechanisms. [Text] [Moscow SOVETSKAYA INDUSTRIYA in Russian 14 Jul 81 p 2] 5303

NEW PHOTOSYNTHESIS APPARATUS--An apparatus for the photolysis of water, the decomposition of water into hydrogen and oxygen by means of solar energy, has been constructed by specialists at Yerevan State University. Outwardly this "solar reactor" resembles a butterfly with folded wings. Inside is a glass cylinder with water. It is only necessary to move this apparatus to the sunny side of the laboratory courtyard or direct light rays onto it and the water inside it will begin to boil. The photolysis process is beginning. Hydrogen is discharged through one pipe and oxygen flows out through the other. These are the components of water. The apparatus, which is now being demonstrated at the republic's national economic exhibition, is simple. The entire secret is in the catalyst, helping to stimulate the photolysis process. Precisely it is capable of breaking the bonds of water molecules, breaking it down by means of light into hydrogen and oxygen. As is well known, water is a product of the combustion of hydrogen, which in turn can be obtained from water by means of photolysis. Visualize this: areas with apparatus for the photoelectrochemical transformation of solar energy have been created. Hydrogen, a raw material for industry and high-calorie fuel, will be transported to users through gas pipelines. Using energy from the hydrogen it will be possible to operate factories, plants and automobiles. Under the influence of solar radiation, employing a catalyst, it will be possible to purify the waste waters of industrial enterprises and obtain useful products from them. [Text] [Baku VYSHKA in Russian 22 Jul 81 p 3] 5303

WATER-STEAM ENHANCED RECOVERY--AzNIPIneft' [Azerbaijan Scientific-Research and Design Institute for the Oil Industry] scientists, who have developed a combination method for increasing oil withdrawal, have managed to harness "horses and trembling fallow deer" into a team. For a long time Azerbaijan oilfield workers have used water for squeezing residual crude from formations. With great force the water pushed the "black gold" out, not leaving it the slighest chance to remain under the ground. But water does not cope with viscous crude. As if by a knife, the water cleaves the fuel and floods the well. Displacing the crude with steam has recently been used in the republic. The steam thins the fuel, softens the formation and easily drives the most viscous oil about it. But energy is required to get the steam, and so steam displacement has been considered unprofitable. Azerbaijan scientists have managed to combine the methods and obtain one--a combination method. They suggested creating a steam piston in the formation and pushing it with water. They tested it under laboratory conditions and experimented at the NGDU Leninneft', and an excellent result was obtained. As before, the steam interacts with the crude, "steaming" it, but now much less of it is required. And the water, pushing the steam, does not come in contact with the crude, precluding the possibility of flooding the well. Azerbaijan oilfield workers will recover more than 10,000 tons of "black gold" by means of the steam piston by the end of the year. [Azerinform] [Text] [Baku BAKIINSKIY RABOCHAYA in Russian 17 Oct 81 p 2] 11409

NEW SOUTH KOMI OILFIELDS--Ukhta--The collaboration of scientists, geophysicists and drillers has enabled oil recovery to be increased in southern regions of the Komi ASSR. New deposits of raw materials are put into operation systematically here. The prospects for their discovery were scientifically substantiated by PechorNIPI-neft' [Pechora Scientific-Research and Design Institute for the Petroleum Industry]. The geophysicists checked and confirmed in practice the scientists' conclusions. Now the operation of two new fields has started, and preparatory work is being done at a third. "Although the fields are not large, their operation is advantageous," says Komineft' Association General Director A. Gumenyuk. "They were located alongside existing complexes for the recovery, transport and processing of valuable raw materials. No great expenditures are required for building roads, electric-power lines, pipelines and housing settlements. The oil being recovered here is marked by high quality. More than a million tons of crude will be taken from the new storehouses next year in the southern regions of the Komi ASSR." [TASS] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 15 Aug 81 p 2] 11409

MUSLYUMOV PIPELINE PUMP STATION--Kazan'--The construction of a pump station on the Perm'-Al'met'yevsk oil pipeline has started near the rayon center Muslyumov. All work on the new facilities is being done by an integrated brigade of PMK-1 [Mobile Mechanized Column No 1] of Trust No 5. Using progressive technology, the masons, concrete workers and erector-fitters are working with high output. A. Dremlyuga and N. Balandin are leading in the construction workers' competition. They intend to carry out the task for the year by the end of November. [V. Goncharov] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 15 Oct 81 p 1] 11409

CATALYTIC HYDROGENATION OF COAL--Krasnoyarsk--Each 5 tons of brown coal of the Kansk-Achinsk Fuel and Power Complex (KATEK) is capable of producing 1 ton of liquid substance--so-called coal oil--by means of catalytic hydrogenation. In the opinion of scientists of the Institute of Useful Minerals, expenditures for producing liquid fuel from KATEK coal will be 25-30 percent lower than for extracting oil now in Siberia's North. During this five-year plan a specialized enterprise for processing coal into synthetic liquid fuel is to be built at the Berezovskiy-1 Strip Mine. [P. Zinkeyev] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 14 Oct 81 p 1] 11409

GAS-SERVICES CONFERENCE--The All-Union Scientific and Technical Conference that opened 21 October at the Club imeni F. E. Dzerzhinskiy has been dedicated to questions of further raising the effectiveness of gas services. The Central Administration and the Azerbaijan Republic Administration of the Scientific and Technical Society for Municipal Services and Domestic Services, jointly with Glavgaz [Main Administration for Gas Services] under the Azerbaijan SSR Council of Ministers, are conducting the conference. Representatives of support services and gas-services enterprises and scientists from Moscow, Baku, Tbilisi, Ufa, Saratov and other cities of the country are participating. On the first day of work, reports on "Ways to Improve Operation of Gas Supply Systems During the 11th Five-Year Plan," "Prospects for Developing Gas Services of the Azerbaijan SSR in Light of 26th CPSU Decisions," "The Main Directions for Raising the Technical Level of Gas Services," and other reports were heard. The conference will last 3 days. [Azerinform] [Text] [Baku VYSHKA in Russian 22 Oct 81 p 3] 11409

VYBORG OFFSHORE-PLATFORM CONSTRUCTION--Vyborg, Leningrad Oblast--Floating semisubmersible platforms will permit an expansion of the areas for prospecting for oil and gas in the continental-shelf zone. Production of the platforms will start at the Vyborg Shipbuilding Yard, where the foundation for the first installation, Vyborg-1, with a displacement of about 20,000 tons, will be laid. It will be possible to drill to a depth of up to 6 kilometers under 200 meters of water from such platforms. Powerful anchors will keep them in the drilling area. An information and measuring complex will be charged with constant monitoring of the position of the platform relative to the hole. Change of the crew, for whom comfortable living conditions are called for, will be made by helicopter. The installation will be capable of making penetrations in high seas. Special equipment will preclude oil falling into the sea and will provide for reliable protection of the environment. [TASS] [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 7 Oct 71 p 1] 11409

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